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NOW THAT THE SEASON of the *present* is nearly over, now that spring with its freshness of promise, summer with its luxury of development, and autumn with its fulfilment of fruitfulness, have all laid their joys and benefits at our feet, we naturally pause for a moment to see what is to be done in the rural plans of the *future*.

The PLANTING SEASON is at hand. Our correspondence with all parts of the country informs us, that at no previous time has the improvement of private grounds been so active as at present. New and tasteful residences are everywhere being built. New gardens are being laid out. New orchards of large extent are rapidly being planted. In short, the horticultural zeal of the country is not only awake—it is brimfull of energy and activity.

Private enterprise being thus in a fair way to take care of itself, we feel that the most obvious duty is to endeavor to arouse a corresponding spirit in certain rural improvements of a more public nature.

We therefore return again to a subject which we dwelt upon at some length last spring—the planting of shade trees in the streets of our rural towns and villages.

Pleasure and profit are certain, sooner or later, to awaken a large portion of our countrymen to the advantages of improving their own private grounds. But we find that it is only under two conditions that many public improvements are carried on. The first, is when nearly the whole of the population enjoy the advantages of education, as in New-England. The second, is when a few of the more spirited and intelligent of the citizens move the rest by taking the burden in the beginning upon their own shoulders by setting the example themselves, and by most zealously urging all others to follow.

The villages of New-England, looking at their sylvan charms, are as beautiful as any in the world. Their architecture is simple and unpretending—often, indeed, meagre and unworthy of notice. The houses are surrounded by enclosures full of trees and shrubs, with space enough to afford comfort, and ornament enough to denote taste. But the main street of the village is an avenue of Elms, positively delightful to behold. Always wide, the over-arching boughs form an aisle more grand and beautiful than that of any old gothic cathedral. Not content, indeed, with one avenue, some of these villages have, in their wide, single street, three lines of trees, forming a double avenue, of which any grand old palace

abroad, might well be proud. Would that those of our readers, whose souls are callous to the charms of the lights and shadows that bedeck these bewitching rural towns and villages, would forthwith set out on a pilgrimage to such places as Northampton, Springfield, New-Haven, Pittsfield, Stockbridge, Woodbury, and the like.

When we contrast with these lovely resting places for the eye, embowered in avenues of Elms, gracefully drooping like fountains of falling water, or Sugar Maples swelling and towering up like finely formed antique vases—some of the uncared for towns and villages in our own state, we are almost forced to believe that the famous common schools of New-England teach the æsthetics of art, and that the beauty of shade trees is the care of especial professorships. Homer and Virgil, Cicero, Manlius, and Tully, shades of the great Greeks and Romans!—our citizens have named towns after you, but the places that bear your names scarcely hold leafy trees enough to renew the fading laurels round your heads!—while the direct descendants of stern Puritans, who had a holy horror of things ornamental, who cropped their hair, and made penalties for indulgences in fine linen, live in villages overshadowed by the very spirit of rural elegance!

It is neither from a want of means, or want of time, or any ignorance of what is essential to the beauty of body or of mind, that we see this neglect of the public becomingness. There are numbers of houses in all these villages, that boast their pianos, while the last Paris fashions are worn in the parlors, and the freshest periodical literature of both sides of the Atlantic fills the centre tables. But while the comfort and good looks of the individual are sufficiently cared for, the comfort and good looks of the town are sadly neglected. Our education here stops short of New-England. We are slow to feel that the character of the inhabitants is always, in some degree, indicated by the appearance of the town. It is, unluckily, no one's especial business to ornament the streets. No one feels it a reproach to himself, that verdure and beauty do not hang like rich curtains, over the street in which he lives. And thus a whole village or town goes on from year to year, in a shameless state of public nudity and neglect, because no one feels it his particular duty to persuade his neighbors to join him in making the town in which he lives, a gem of rural beauty, instead of a sorry collection of uninteresting houses.

It is the frequent apology of intelligent persons who live in such places, and are more alive to this glaring defect than the majority, that it is impossible for them to do any thing alone, and their neighbors care nothing about it.

One of the finest refutations of this kind of delusion, exists in New-Haven. All over the Union, this town is known as the "City of Elms." The stranger always pauses, and bears tribute to the taste of its inhabitants, while he walks beneath the grateful shade of its lofty rows of trees. Yet a large part of the finest of these trees were planted, and the whole of the spirit which they have inspired, was awakened by one person—Mr. Hillhouse. He lived long enough to see fair and lofty aisles of verdure, where, before, were only rows of brick or wooden houses; and, we doubt not, he enjoyed a purer satisfaction, than many great conquerors who have died with the honors of capturing kingdoms, and demolishing a hundred cities.

Let no person, therefore, delay planting shade trees himself, or persuading his neighbors to do the same. Wherever a village contains half a dozen persons zealous in

this excellent work of adorning the country at large, let them form a society and make proselytes of those who are slow to be moved otherwise. A public spirited man in Boston does a great service to the community, and earns the thanks of his countrymen, by giving fifty thousand dollars to endow a professorship in a college; let the public spirited man of the more humble village in the interior, also establish his claim to public gratitude, by planting fifty trees annually, along its public streets, in quarters where there is the least ability or the least taste to be awakened in this way, or where the poverty of the houses most needs something to hide them, and give an aspect of shelter and beauty. Hundreds of public meetings are called, on subjects not half so important to the welfare of the place as this, whose object would be to direct the attention of all the householders to the nakedness of their estates, in the eyes of those who most love our country, and would see her rural towns and village homes made as attractive and pleasant as they are free and prosperous.

We pointed out, in a former article, the principle that should guide those who are about to select trees for streets of rural towns —that of choosing that tree which the soil of the place will bring to the highest perfection. There are two trees, however, which are so eminently adapted to this purpose in the northern states, that they may be universally employed. These are the *American Weeping Elm* and the *Silver Maple.* They have, to recommend them, in the first place, great rapidity of growth; in the second place, the graceful forms which they assume; in the third place, abundance of fine foliage; and lastly, the capacity of adapting themselves to almost every soil where trees will thrive at all.

These two trees have broad and spreading heads, fit for wide streets and avenues. That fine tree, the *Dutch Elm*, of exceedingly rapid growth and thick dark-green foliage, makes a narrower and more upright head than our native sort, and, as well as the Sugar Maple may be planted in streets and avenues, where there is but little room for the expansion of wide spreading tops.

No town, where any of these trees are extensively planted, can be otherwise than agreeable to the eye, whatever may be its situation, or the style of its dwellings. To villages prettily built, they will give a character of positive beauty that will both add to the value of property, and increase the comfort and patriotism of the inhabitants.

PHYSIOLOGICAL EFFECTS OF SEVERE FROSTS ON TREES.

BY E. NICHOLS, WALHONDING, OHIO.

Sir—In volume 2, page 74, is the opinion of M. Morren, and your comments dissenting from his aphorisms on this subject. He contends the injury thus done to trees is *chemical*; you suggest it is often *mechanical*, bursting the sap-vessels, etc. As to the form or mode of chemical action, by *elimination of the air on thawing*, as maintained by M. Morren, I give no opinion; but that the injury is *chemical* and not *mechanical*, in a majority of cases, seems to me highly probable. Your principal fact, the cold *rending the entire trunks of trees with a loud noise*, seems to me rather against than for your position, for this rending does not even injure the health of the tree; on the con-

trary, it grows over and the tree continues to prosper an indefinite period. Among fruit trees I have witnessed this particularly in a cherry tree, and every woodsman knows it to be true of forest trees; there being, in many situations, but few great oaks, which on being sawed or split, do not show frost cracks. Again the alburnum, chiefly the smaller branches and one year's shoots, suffer principally by freezing, where death is induced; and these from their more porous, softer and tougher character, would bear mechanical distension much better than the harder and more brittle heart-wood, which rends with the report of a cannon, forcing, it is true, the thin covering of sap-wood on large trees. (*a*)

That the injury is chemical, seems to me apparent from the fact, as you have well observed, on frozen-sap blight, that the sap is always discoloured, where freezing produces vegetable death; and in fact the whole substance of those parts of the tree injured, immediately on thawing, show this discoloration; for example, if what we usually call the *roots* of a tree, (or what some botanists term underground branches,) are exposed to an atmosphere below the freezing point, it will be found that the extremities of the roots, taken from a considerable depth, will perish from the slightest freezing, while the upper portions, more used to cold and less porous, will remain uncolored and alive; but if the freezing be increased, the roots perish to the neck of the tree, showing that the soft and porous parts, least likely to be injured by simple mechanical distention, is the first to yield up vegetable life to the frost.

Again, there is a striking resemblance in the frozen and destroyed sap, to the effect produced by freezing on several kinds of ink, dyes, etc., in which I presume no one will doubt the injury is chemical.

So too in the action of frost on the potato; its juices are evidently chemically vitiated, not its substance mechanically destroyed; for even when grated, the potato will retain its vitality for sometime in water, but loses it instantly on being frozen and thawed. Other vegetables, as the apple, and turnip and beet, will bear more frost, but intense freezing destroys most of them. Nor does this destruction seem to depend on the quantity of aqueous matter in the vegetable, liable to distention by the frost; for the potato, the driest of the four vegetables named, yields its life to the least freezing; and the beet less juicy than the turnip or apple, next; and the turnip stands more than either. So it is with trees: one variety, equally succulent, will bear more frost than another; as for example, the oak will withstand more than the pear, and the pear more than the tender exotic, which demonstrates that it is not the quantity of the water, but the definite composition of the sap of each kind, that renders it more or less liable to destruction by frost, and proves that the destruction is not of the woody vessels, which would readily yield to the mechanical power of frost in all, but to the chemical dissolution of the sap.(*b*) The sap loses its proper character, as does the ink, the dye, the potato, the beet; and instead of nourishing the tree, poisons, and is as unfit for its use as is the potato, after freezing, for the use of man. Indeed, the part of the tree undergoing this change dies as suddenly as a man would, if the whole blood of his system were converted into hog-wash or swill.

But it will be asked, if it is not the expansion of water by freezing, that bursts the sap-vessels, why is it that it is always the trees that are growing and succulent, or the limbs that are in that condition, that are destroyed by frost? It is only trees in a

growing state that are charged with the cambium or elaborated sap, containing the elements of a new layer or stratum of wood. So soon as this deposit is fairly made, the tree quickly ceases to grow, and the little sap in circulation contains comparatively little more than water. In the latter part of the month of June, I have seen the annual concentric layer deposited in due form, but yet in a soft, almost semi-fluid, state, adhering imperfectly to the old wood, and readily separated from both wood and bark. The work of after growth for the season, is to consolidate and perfect this layer. This done, the sap, highly charged with living woody matter, ceases to flow; and it is only this unconsolidated living matter that is highly susceptible to the chemical action of frost. Except its protection by the bark, it may well be supposed to be more tender and susceptible, than the most delicate expanded leaf of spring.

This theory of M. Morren also makes the true cause of the summer blight of pear trees, more probable than any thing I have seen, by an easy transition. It is well known that on the living organism of plants and animals, heat and cold seem to produce very similar injuries. It is equally well known that the pear is a native of countries not subject to the extremes of heat or cold felt here. Suppose then the tree is rapidly growing, and its new alburnum is in the semi-fluid state of which I have spoken, and suppose one of our unusual hot days, or singularly cold nights, in either case, is it unreasonable to suppose, that chemical decomposition occurs in the charged sap, and death is induced? In the laboratory great changes are produced by a change of temperature, and it is reasonable the like occurs in the laboratory of nature. If something of this kind was not intended, I am not aware what Kenrick and others have meant in referring blight to a *stroke of the sun.*

In the human system, we know chemical action often overpowers the vital action in the stomach, and the fermentation of decomposition prevents digestion. And reasoning from analogy, it may well be concluded, that when the tree is fully charged with cambium or vital sap, full of the elements of wood, and there comes an unusually cold night or hot day, or dry or wet time, or there happens to the tree any other accident, which weakens the vital action, chemical action will take place, and a rapid decomposition of the true sap ensue, rendering that which should have formed wood poison to the tree. It follows, therefore, that the way to prevent blight, is to keep the tree in good health, and as far as possible to prevent excesses of all kinds—especially excess in manure, and in moisture, and cultivation; and that regularity should be practised, and every operation well timed.

If a tree hitherto neglected, be powerfully manured at midsummer, and especially if it be trimmed at the same time, death may be expected. So of extra cultivation, commenced after midsummer. Some soils naturally produce great irregularities in the growth of trees. This I know to be the case with the rich limestone hills in the northeast part of Ohio, where pear tree blight is very common, and where it evidently often occurs in the summer, and frequently does not extend below the growth of the season. That it does originate in the summer, is clearly proved by the facts related by Lemuel Powell in No. 7 of the third volume of the Ohio Cultivator, at page 52. Mr. Powell moved part of a lot of pear trees of the same age and condition, wintered alike, in the spring, from Jefferson county to Meigs county. Those removed

lived and flourished; those unremoved died that summer of blight. This limestone soil on which the pear blights, so far as I have seen it examined, is fertile on the top, and a very close solid clay for some four feet under. This clay becomes so dry in the latter part of the season, that in many places it cracks, and makes fissures of from one-fourth to an inch wide. The cause of the blight seems to be, the moisture kept to the surface by the clay, induces rapid growth in the fore part of the season; and when dry hot weather sets in, the upper fertile stratum dries, and suddenly withholds the proper nourishment; or in the fall the moisture is retained, when early autumnal rains occur, and late growth is caused, and the frozen-sap blight follows. The remedy, I suppose, is to cut through the clay, and make a connection of friable soil with the under strata, which is generally porous, and from the great depth at which I have seen roots growing, I judge when once through the upper strata, roots flourish well; but as I intend to have it tried at Loydsville the coming year, I may hereafter give a better opinion on the subject. E. Nichols.

Walhonding, Ohio, Sept. 1, 1847.

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Remarks.—(*a*) Our correspondent mistakes our view. M. Morren's first aphorism is, that no organ of plants is rent by the action of cold, except in a few rare cases, when the cavities of the cellular tissue yield to the effect of the dilatation of the liquid. Our remark was intended to call attention to the common and well known instances of the rending of the trunks of trees in the northern states, the result, as we believe, of the expansion of sap vessels by freezing. We are very well aware that death does not usually ensue when this happens to perfectly *hardy* trees, but it does when the tree is rather tender.

(*b*) Why certain trees are hardy in their nature, and others tender, physiologists have as yet been able to give no explanation, other than a particular constitution adapted to the climate they naturally inhabit. A potato, which is a tropical root, retains this delicacy of constitution, and therefore freezes much more quickly than an apple or a beet, both of which are natives of cold climates, and have constitutional or vital capacity of resisting frost. The trunk of the mahogany tree is one of the firmest, closest, and least *sappy* known, yet this tree will not bear the least exposure to a northern winter, while the poplar and the willow, counted among the softest wooded trees, full of juices, will bear the winters even of the frigid zones.

The important fact that we intended to convey in the note referred to by our correspondent, is that of two given trees of the same species, only partially hardy, or which are liable to injury in winter, that which had thoroughly elaborated its juices by an early growth well matured, is, as experience has repeatedly proved, in a much better condition to resist the action of frost, than another which has made a late growth, and is more or less replete with watery fluid or crude sap.—Ed.

Varieties of Pears.—T. Rivers, of the celebrated Sawbridgeworth nursery, England, has about *nine hundred* varieties of the pear under trial. Robert Manning, of Salem, Massachusetts, had about *eight hundred*. Probably not forty of all these are fully first rate, or worthy of extensive cultivation.

THE DESTRUCTION AND REPRODUCTION OF AMERICAN FORESTS.

BY J. W. DAWSON, PICTOU, NOVA SCOTIA.*

THE changes produced by the agency of civilized man, in the condition of the earth's surface, and the numbers and distribution of its living inhabitants, though not of great importance when compared with those which result from the unceasing operation of natural causes, are interesting to the naturalist, as they illustrate the vicissitudes which many parts of the earth's surface have experienced in ancient times, the extent to which plants and animals can accommodate themselves to changes of circumstances, and the natural compensations which have been provided for the destruction or diminution of particular species. Inquiry into such changes is also of importance as a means of dispelling the mystery which frequently envelopes the succession of organized beings in circumstances of physical change; a mystery which has induced some naturalists to recur to the doctrine of spontaneous generation and the transmutation of species, for explanations of phenomena which if properly examined, would have been found to result from some of the most ordinary causes of the maintenance and distribution of animal and vegetable life.

In North America, and especially in those parts of it forming the United States and British Provinces, such changes have occurred with great rapidity, converting, in a few years, uninhabited forests into countries having the aspect of regions long inhabited by civilized men. The forests have been destroyed, their living inhabitants extirpated, or obliged to adopt new modes of life, new animals and plants introduced and naturalized; and indeed, a revolution effected in all the departments of organized nature, in the lapse of a single generation. To notice a few of these changes, with reference more especially to the destruction and partial reproduction of forests, is my present object. The facts which I propose to state have been collected principally in the province of Nova Scotia.

In their natural state, Nova Scotia and the neighboring provinces were covered with dense woods, extending from the shores to the summits of the hills. These woods did not form detached groves, but constituted a nearly continuous sheet of foliage, the individual trees composing which were so closely placed as to prevent them from assuming full and rounded forms, and to oblige them to assume tall and slender shapes, that each might obtain air and light. The only exceptions to this are certain rich and usually light soils, where the forest is sometimes more open, and hills too rocky to support a covering of trees. When viewed from the summit of a hill, the forest presents a continuous undulating surface of a more or less dark colour and uneven form, in proportion to the prevalence of the deep colours and uneven outlines of the evergreen coniferæ, or of the lighter tints and rounded contours of the deciduous trees; and these two classes are usually arranged in belts or irregular patches, containing mixtures of trees corresponding to the fertility and dryness of the soil. In general the deciduous or hardwood trees prevail on intervale ground, fertile uplands, and the flanks and summits of slaty and trappean hills; while swamps, the less fertile and lightest upland soils, and granitic hills, are chiefly occupied by coniferous trees.

The forest trees spring from a bed of black vegetable mould, whose surface is rendered uneven by the little hillocks of earth and stones thrown up by windfalls; and which, though usually named *Cradle hills*, are in reality the graves of departed members of the forest, whose trunks have mouldered into the mossy soil. These cradle hills are most numerous in thin soils; and are chiefly produced by the coniferous trees, and especially by the hemlock spruce. There is usually little underwood in the original forest; mosses, lycopodia, ferns, and a few herbaceous flowering plants, however, flourish beneath the shade of the woods.

The woods perish by the axe and by fire,

* From the Edinburgh New Philosophical Journal.

either purposely applied for their destruction or accidental. Forest fires have not been confined to the period of European occupation. The traditions of the Indians tell of extensive ancient conflagrations; and it is believed that some of the aboriginal names of places in Nova Scotia originated in these events. In later times, however, fires have been more numerous and destructive. In clearing land, the trees when cut down are always burned, and, that this may be effected as completely as possible, the driest weather is frequently selected; although the fire then is much more likely to spread into the surrounding woods. It frequently happens that the woods contain large quantities of dry branches and tops of trees, left by cutters of timber and firewood, who rarely consider any part of the tree except the trunk worthy of their attention. Even without this preparation, however, the woods may, in dry weather, be easily inflamed; for although the trunks and foliage of growing trees are not very combustible, the mossy vegetable soil, much resembling peat, burns easily and rapidly. Upon this mossy soil depends, in a great measure, the propagation of fires, the only exception being when the burning of groves of the resinous coniferous trees is assisted by winds, causing the flame to stream through their tops more rapidly than it can pass along the ground. In such cases some of the grandest appearances ever shown by forest fires, occur. The fire, spreading for a time along the ground, suddenly rushes up the tall resinous trees with a loud crashing report, and streams far beyond their summits, in columns and streamers of lurid flame. It frequently happens, however, that in wet or swampy ground, where the fire cannot spread around their roots, even the resinous trees refuse to burn; and thus swampy tracts are comparatively secure from fire. In addition to the causes of the progress of fires above referred to, it is probable that at a certain state of the growth of the forests, when the trees have attained to great ages, and are beginning to decay, they are more readily destroyed by accidental conflagrations. In this condition the trees are often much moss grown, and have much dead and dry wood; and it is possible that we should regard fires arising from natural or accidental causes, as the ordinary and natural agents for the removal of such worn-out forests.

Where circumstances are favorable to their progress, forest fires may extend over great areas. The great fire which occurred in 1825, in the neighborhood of the Miramichi river, in New-Brunswick, devastated a region one hundred miles in length and fifty miles in breadth. One hundred and sixty persons, and more than eight hundred cattle, besides innumerable wild animals, are said to have perished in this conflagration. In this case, a remarkably dry summer, a light soil easily affected by drought, and a forest composed of full-grown pine trees, concurred with other causes in producing a conflagration of unusual extent.

When the fire has passed through a portion of forest, if this consist principally of hardwood trees, they are usually merely scorched—to such a degree, however, as in most cases to cause their death; some trees, such as birches, probably from the more inflammable nature of their outer bark, being more easily killed than others. Where the woods consist of softwood or coniferous trees, the fire often leaves nothing but bare trunks and branches, or at most a little foliage, scorched to a rusty brown colour. In either case, a vast quantity of wood remains unconsumed, and soon becomes sufficiently dry to furnish food for a new conflagration; so that the same portion of forest is liable to be repeatedly burned, until it becomes a bare and desolate "barren," with only a few charred and wasted trunks towering above the blackened surface. This has been the fate of large districts in Nova Scotia and the neighboring colonies; and as these burned tracts could not be immediately occupied for agricultural purposes, and are diminished in value by the loss of their timber, they have been left to the unaided efforts of nature to restore their original verdure. Before proceeding to consider more particularly the mode in which this restoration is effected, and the appearances by which it is accompanied, I may quote from an article in a colonial periodical, the views of Mr. Titus Smith, Secretary of the Board of Agriculture of Nova Scotia, on this subject. These views, as the results

of long and careful observation, are entitled to much respect.

"If an acre or two be cut down in the midst of a forest, and then neglected, it will soon be occupied by a growth similar to that which was cut down; but when all the timber, on tracts of great size, is killed by fires, except certain parts of swamps, a very different growth springs up; at first a great number of herbs and shrubs, which did not grow on the land when covered by living wood. The turfy coat, filled with the decaying fibres of the roots of the trees and plants of the forest, now all killed by the fire, becomes a kind of hot-bed, and seeds which had lain dormant for centuries, spring up and flourish in the mellow soil. On the most barren portions, the blueberry appears almost every where; great fields of red raspberries and fire-weed or French willow, spring up along the edges of the beech and hemlock land, and abundance of red-berried elder and wild red-cherry appear soon after; but in a few years, the raspberries and most of the herbage disappear, and are followed by a growth of firs, white and yellow birch, and poplar. When a succession of fires has occurred, small shrubs occupy the barren, the kalmia or sheep-poison being the most abundant; and, in the course of ten or twelve years form so much turf, that a thicket of small alder begins to grow, under the shelter of which fir, spruce, hacmetac (larch), and white birch spring up. When the ground is thoroughly shaded by a thicket twenty feet high, the species which originally occupied the ground begin to prevail, and suffocate the wood which sheltered it; and within sixty years, the land will generally be covered with a young growth of the same kind that it produced of old." Assuming the above statements to be a correct summary of the principal modes in which forests are reproduced, we may proceed to consider them more in detail.

1*st*. Where the wood is merely cut down and not burned, the same description of wood is immediately reproduced, and this may be easily accounted for. The soil contains abundance of the seeds of these trees, there are even numerous young plants ready to take the place of those which have been destroyed; and if the trees have been cut in winter, their stumps produce young shoots. Even in cases of this kind, however, a number of shrubs and herbaceous plants, not formerly growing in the place, spring up; the cause of this may be more properly noticed when describing cases of another kind. This simplest mode of the destruction of a forest, may assume another aspect. If the original wood have been of kinds requiring a fertile soil, such as maple or beech, and if this wood be removed for example, for firewood, it may happen that the quantity of inorganic matter thus removed from the soil may incapacitate it, at least for a long time, from producing the same description of timber. In this case, some species requiring a less fertile soil may occupy the ground. For this reason, forests of beech growing on light soils, when removed for firewood, are sometimes succeeded by spruce and fir. I have observed instances of this kind, both in Nova Scotia and Prince Edward Island.

2*dly*. When the trees are burned, without the destruction of the whole of the vegetable soil, the woods are reproduced by a more complicated process, which may occupy a number of years. In its first stage, the burned ground bears a luxuriant crop of herbs and shrubs, which, if it be fertile and not of very great extent, may nearly cover its surface in the summer succeeding the fire. This first growth may comprise a considerable variety of species, which we may divide into three groups. The first of these consists of herbaceous plants, which have their roots so deeply buried in the soil as to escape the effects of the fire. Of this kind is a small species of Trillium, whose tubers are deeply imbedded in the black mould of the woods, and whose flowers may sometimes be seen thickly sprinkled over the black surface of woodland very recently burned. Some species of ferns, also in this way occasionally survive forest fires. A second group is composed of plants whose seeds are readily transported by the wind. Of this kind is the species of Epilobium, known in Nova Scotia as the fire-weed or French willow, whose feathered seeds are admirably adapted for flying to great distances, and which often covers large tracts of burned ground so completely, that its

purple flowers communicate their own colour to the whole surface, when viewed from a distance. This plant appears to prefer the less fertile soils, and the name of fire-weed has been given to it, in consequence of its occupying these when their wood has been destroyed by fire. Various species of Solidaga and Aster, and other composite plants, and Ferns, Lycopodia, and Mosses, are also among the first occupants of burned ground, and their presence may be explained in the same way with that of Epilobium; their seeds and sporules being easily scattered over the surface of the barren by wind. A third group of species, found abundantly on burned ground, consists of plants bearing edible fruits. The seeds of these are scattered over the barren by birds which feed on the fruits, and finding a rich and congenial soil, soon bear abundantly, and attract more birds, bringing with them the seeds of other species. In this way, it sometimes happens that a patch of burned ground, only a few acres in extent, may, in a few years, contain specimens of nearly all the fruit-bearing shrubs and herbs indigenous in the country. Among the most common plants, which overspread the burned ground in this manner, are the raspberry, which, in good soils, is one of the first to make its appearance; two species of Vaccinium, called in Nova Scotia, blueberries; the tea-berry wintergreen (*Gualtheria procumbens*); the pigeon berry (*Cornus canadensis*); and the wild strawberry. It is not denied that some plants may be found in recently burned districts, whose presence may not be explicable on the above modes; but no person acquainted with the facts, can deny that all the plants which appear, in any considerable quantity, within a few years after the occurrence of a fire, may readily be included in the groups which have been mentioned. By the simple means which have been described, a clothing of vegetation is speedily furnished to the burned district; the unsightliness of its appearance is thus removed, abundant supplies of food are furnished to a great variety of animals, and the fertility of the soil is preserved, until a new forest has time to overspread it.

With the smaller plants that first cover a burned district, great numbers of seedling trees spring up, and these, though for a few years not very conspicuous, eventually overtop, and, if numerous, suffocate the humbler vegetation. Many of these young trees are of the species which composed the original wood, but the majority are usually different from the former occupants of the soil. The original forest may have consisted of white or red pine; black, white or hemlock spruce; maple, beech, black or yellow birch, or other trees of large dimensions, and capable of attaining to a great age. The "second growth" which succeeds these, usually consists of poplar, white or poplar birch, wild cherry, balsam fir, scrub pine, alder, and other trees of small stature, and usually of rapid growth, which, in good soils, prepare the way for the larger forest trees, and occupy permanently, only the less fertile soils. A few examples will show the contrast which thus appears between the primeval forest, and that which succeeds it after a fire. Near the town of Pictou, woods chiefly consisting of beech, maple and hemlock, have been succeeded by white birch and firs. A small clearing in woods of maple and beech in New Annan, which, thirty years ago, was under cultivation, is now thickly covered with poplars thirty feet in height. In Prince Edward Island, fine hardwood forests have been succeeded by fir and spruce. The pine woods of Miramichi, destroyed by the great fire above referred to, have been followed by a second growth, principally composed of white birch, poplar, and wild cherry. When I visited this place, a few years since, the second growth had attained to nearly half the height of the dead trunks of the ancient pines, which were still standing in great numbers.

As already stated, the second growth almost always includes many trees similar to those which preceded it, and when the smaller trees have attained their full height, these and other trees capable of attaining a greater magnitude, overtop them and finally cause their death. The forest has then attained its last stage, that of perfect renovation. The cause of the last part of the process evidently is, that in an old forest, trees of the largest size and longest life have

a tendency to prevail, to the exclusion of others. For reasons which will be afterwards stated, this last stage is rarely attained by the burned forests, in countries beginning to be occupied by civilized man.

In accounting for the presence of the seeds necessary for the production of the second growth, we may refer to the same causes which supply the seeds of the smaller plants appearing immediately after the fire. The seeds of many forest trees, especially the poplar, the birch, and the firs and spruces are furnished with ample means for their conveyance through the air. The cottony pappus of the poplar seems especially to adapt it for this purpose. The seeds of the wild cherry, another species of frequent occurrence in woods of the second growth, are dispersed by birds which are fond of the fruit; the same remark applies to some other fruit-bearing species of less frequent occurrence. When the seeds that are dispersed in these ways fall in the growing woods, they cannot vegetate, but when they are deposited on the comparatively bare surface of a barren, they readily grow; and if the soil be suited to them, the young plants increase in size with great rapidity.

It is possible, however, that the seeds of the trees of the second growth may be already in the soil. It has been already stated, that deeply buried tubers sometimes escape the effects of fire, and, in the same manner, seeds imbedded in the vegetable mould, or buried in cradle hills, may retain their vitality, and being supplied by the ashes that cover the ground, with alkaline solutions well fitted to promote their vegetation, may spring up before a supply of seed could be furnished from any extraneous source. It is even probable that many of the old forests may already have passed through a rotation similar to that above detailed, and that the seeds deposited by former preparatory growths may retain their vitality, and be called into life by the favorable conditions existing after a fire. This is a point, however, requiring for its establishment a series of experiments which I have not yet been able to undertake.

If, as already suggested, forest fires in the uncultivated state of the country, be a provision for removing old and decayed forests, then such changes as those above detailed, must have an important use in the economy of nature, since by their means different portions of the country would succeed each other in assuming the state of "barrens," producing an abundance of herbs and wild fruits suitable for the sustenance of animals which could not subsist in the old forests; and these gradually becoming wooded, would keep up a succession of young and vigorous forests.

3dly. The progress of restoration may be interrupted by successive fires. These are most likely to occur soon after the first burning, but may happen at any subsequent stage. The resources of nature are not, however, easily exhausted. When fires pass through young woods, some trees always escape; and so long as any vegetable soil remains, young plants continue to spring up, though not so plentifully as at first. Repeated fires, however, greatly impoverish the soil, since the most valuable part of the ashes is readily removed by rains, and the vegetable mould is entirely consumed. In this case, if the ground be not of great natural fertility, it becomes incapable of supporting a vigorous crop of young trees. It is then permanently occupied by shrubs and herbaceous plants; at least these remain in exclusive possession of the soil for a long period. In this state the burned ground is usually considered a permanent barren; a name which does not, however, well express its character, for though it may appear bleak and desolate when viewed from a distance, it is a perfect garden of flowering and fruit-bearing plants, and of beautiful mosses and lichens. There are few persons born in the American colonies, who cannot recall the memory of happy youthful days spent in gathering flowers and berries in the burnt barrens. Most of the plants already referred to as appearing soon after fires, continue to grow in these more permanent barrens. In addition to these, however, a great variety of other plants gradually appear, especially the *Kalmia angustifolia*; or sheep laurel, which often becomes the predominant plant over large tracts. Cattle straying into barrens deposit the seeds of cultivated plants, as the grasses and clovers, as well as many exotic weeds, which

often grow as luxuriantly as any of the native plants.

Lastly. When the ground is permanently occupied for agricultural purposes, the reproduction of the forest is of course entirely prevented. In this case, the greater number of the smaller plants found in the barrens disappear. Some species of the Solidago and Aster, and the Canada thistle, as well as a few smaller plants,remain in the fields, and sometimes become troublesome weeds. The most injurious weeds found in the cultivated ground, are not, however, native plants, but foreign species, which have been introduced with the cultivated grains and grasses; the ox-eyed daisy or white weed, and the crowsfoot or buttercup, are two of the most abundant of these.

When a district has undergone the last change, when the sombre woods and the shade-loving plants that grow beneath them, have given place to open fields, clothed with cultivated plants, the metamorphosis which has taken place extends in its effects to the indigenous animals; and in this department, its effects are nearly as conspicuous and important as in relation to vegetation. Some wild animals are incapable of accommodating themselves to the change of circumstances; others at once adapt themselves to new modes of life, and increase greatly in numbers. It was before stated, that the barrens, when clothed with shrubs, young trees and herbaceous plants, were in a condition highly favorable to the support of wild animals; and perhaps there are few species which could not subsist more easily in a country at least partially in this state. For this reason, the transition of a country from the forest state to that of burned barrens, is temporarily favorable to many species, which disappear before the progress of cultivation; and this would be more evident than it is, if European colonization did not tend to produce a more destructive warfare against such species than could be carried on by the aborigines. The ruffed grouse, a truly woodland bird, becomes, when unmolested, more numerous on the margins of barrens and clearings, than in other parts of the woods. The hare multiplies exceedingly in young second growths of birch. The wild pigeon has its favorite resort in the barrens during a great part of the summer. The moose and cariboo, in summer, find better supplies of food in second growth and barrens than in the old forests. The large quantities of decaying wood, left by fires and woodcutters, afford more abundant means of subsistence to the tribe of woodpeckers. Many of the fly-catchers, warblers, thrushes and sparrows, greatly prefer the barrens to most other places. Carnivorous birds and quadrupeds are found in such places in numbers proportioned to the supplies of food which they afford. The number of instances of this kind might be increased to a great extent if necessary; enough, has, however, been stated to illustrate the fact.

Nearly all the animals above noticed, and many others, disappear when the country becomes cultivated. There are, however, other species which increase in numbers, and at once adapt themselves to the new conditions introduced by man. The robin (*Turdus migratorius*) resorts to and derives its subsistence from the fields, and greatly multiplies, though much persecuted by sportsmen. The Fringilla nivalis, a summer bird in Nova Scotia, becomes very familiar, building in out-houses, and frequenting barns in search of food. The song sparrow and Savannah finch, swarm in the cultivated ground. The yellow-bird (*Sylvia æstiva*) becomes very familiar, often building in gardens. The golden-winged woodpecker resorts to the cultivated fields, picking grubs and worms from the ground. The cliff-swallow exchanges the faces of rocks for the eaves of barns and houses; and the barn and chimney-swallows are every where ready to avail themselves of the accommodation afforded by buildings. The acadian or little owl makes its abode in barns during winter. The bob-lincoln, the king-bird, the waxwing or cherry bird, and the humming bird, are among the species which profit by the progress of cultivation. The larger quadrupeds disappear, but the fox and ermine still prowl about the cultivated grounds, and the field-mouse (*Arvicola pennsylvanica*,) which is very abundant in some parts of the woods, is equally so in the fields. Many insects are vastly increased in numbers, in conse-

quence of the clearing of the forests. Of this kind are the grasshoppers and locusts, which, in dry seasons, are very destructive to grass and grain; the frog-spittle insects (*Cercopis*,) of which several species are found in the fields and gardens, and are very injurious to vegetation; and the lepidoptera, nearly the whole of which find greater abundance of food, and more favorable conditions in the burned barrens and cultivated fields, than in the growing woods. It may be remarked in general, that there is no animal, frequenting in Europe the cultivated grounds, and either beneficial or noxious to man, which has not, in the indigenous species of America, an exact representative, filling its place in the economy of nature, and often in a natural, historical point of view, closely related to it. This results from a general sameness of arrangement in the system of nature in the old and new world; and if studied in its details, would form a subject of great interest to the zoologist and physical geographer.

REMARKS ON GARDENING AS A SCIENCE.—No. 5.

BY DR. WM. W. VALK, FLUSHING, L. I.

HAVING adduced the authority of LIEBIG, to show that the humus of the soil is not taken up by the roots of plants *as nutriment*, and suggested to the gardener some of the means and experiments by which he may bring the accuracy of the theory to the test, we propose to dismiss the subject, and, at the same time, to lay aside and altogether repudiate the term *humus* as applied to the garden, leaving the agriculturist to retain it or not, at his pleasure. It matters little what is said or thought of a subject which the mind cannot understand; and as the horticulturist avails himself of substances little used on the farm, our remarks shall be confined to them exclusively.

What then is *manure*, and how does it operate on the produce of the garden? The questions are by no means easily answered, and they apply in a two-fold direction. Every one versed in general horticulture must be perfectly aware that the same soil, the same enrichment, (or "dress" of whatever kind it may be,) will operate very differently upon plants in the open ground, and when confined in pots. Take, for instance, that staple of the garden, virgin loam, and let us refer to the evidence, on this point, of Mr. JAMES MAIN in the British Farmers' Magazine, April 1841, p. 93. He says;

"Newly reclaimed lands, whether from old pasture, fallen woods, or commons, or fresh loam dug from pits, are all, for a few years, exceedingly productive, without assistance from manure or other treatment, save digging or ploughing. This virtue of maiden soil, be it what it may, is at last dissipated by repeated cropping; and then the land must be refreshed with a dressing of some kind of manure. I have never read or heard of any trial having been made by chemists to analyze maiden earth, with a view of ascertaining what that particular quality is that proves so exciting and beneficial to vegetation. Its effects are well known to all cultivators. Trenching and trench plowing are the ordinary means for gaining upon the surface an additional stratum of virgin earth; and the good effects which follow sooner or later, are sometimes attributed to the true cause, namely, the addition of new, untired earth, though, by others, it is said to be owing to the increased depth of the staple." The new stratum is undoubtedly the exciting agent, and elucidating his argument by agricultural data, Mr. MAIN then asks, "*What* is that property of maiden earth, which *when aërated* proves so exciting and nutritive to the roots of plants? It cannot be humus, that is decay-

ed vegetable matter, unless very ancient indeed, and deposited contemporaneously with the chalk formations; for I have found it reposing on chalk in considerable masses, which seemed to have felt no disturbance since the deluge, and in situations where no enriching fluid could be received, and yet for the sustentation of plants, whether native or exotic, it is invaluable. It would be well, if by chemical analysis, any light could be thrown on the matter. Perhaps *it may be some simple body*, which can be artificially collected, and applied with less trouble and equal effect, as more ponderous materials."

If any of our readers can retrace the astonishing effects of a loam raised by the spade in trenching from a depth of nearly two feet,and which had evidently lain undisturbed for centuries, upon a crop of any of the cabbage tribe, he will be satisfied with the truth of Mr. MAIN's remarks.

On such a loam, yellow or brown-orange in colour, void of any traceable fibre, and to a demonstration free from a particle of any substance that could bear the name of manure, potatoes, cabbages, broccoli, and the like, will thrive with a rapidity, verdure and luxuriance, that nothing can excel. What then, we inquire, chemically, has been, and is the exciting agent? Such a loam is composed chiefly of insoluble sand, of perhaps one-fourth of alumine, or the matter of pure clay, of oxide of iron, (the colouring material,) and generally of a small percentage of chalk (carbonate of lime.) Now any or all of these, however varying in their proportions, are little soluble in water; but the loam so constituted, if LIEBIG's authority be proof, invariably contains a proportion of vegetable alkali, *potassa*, of which substance, wherever it be found in the vegetable organization, it is the sole source and parent. Here then, Mr. MAIN's most valuable suggestion is realised; for a body, though not absolutely simple, a chemical agent *is* discovered, which being extremely soluble, is most energetic and potential in its effects upon the vegetable fluids. We are, therefore, justified in concluding that to *potassa* may be ascribed those luxuriant results which are the subject of inquiry.

But such a loam, however invaluable to vegetable culture, producing that flavor and purity which can never be obtained from manure in any form, will not avail in pot culture; it is altogether too binding and intractable. The principle, nevertheless, remains in full force, therefore the judicious gardener has recourse to the turf taken off the purest loam of a common or grass pasture; this he lays up in mass, turns, incorporates, and finally uses with its fibrous remains. Hence he obtains the best soil in a form and temperament that will give freedom to the progress of the roots, and yet has not lost one particle of those salts which play so important a part in the economy of vegetation.

But does his soil become paler during a course of culture? Does it in any way present signs of impoverishment? Certainly not; it acquires depth of tint, *it gains humus*, and, after a time, the colour is darkened by several shades, proving that *carbon* has been deposited—not abstracted. Yet new soil is soon required; and again a prudent addition of fresh turf, and frequently assisted by the whitest sand, will renew the energy of vegetation, and, simultaneously, all the corresponding phenomena. We have now, though conscious of much ignorance of those wondrous causes which are ever varying their "ceaseless change," presented our readers with matter for deep reflection, and, we dare hope, for profitable inquiry and experiment.

The next great natural agent, to the consideration of which our remarks are naturally led, is *water*. In importance, perhaps, it ought to hold the precedence, though treated numerically as second to *earth*. Its composition and agency may induce others to arrive at the same conclusion. Few persons, in this age of reading, consider water as a simple element; every chemist knows it to be a compound, consisting of the two great elementary principles, *hydrogen* and *oxygen*, two parts of the first, one of the second, and both estimated by their volume or measure. But the question now arises, what are hydrogen and oxygen? The reply is simple, (yet expressive of ignorance:) —they are the constituent elements of that fluid which might be regarded as the first of created things—water.

The sublime experiments of Professor FARADAY have shown that this all important fluid is the standard measure of electrical developments. His "*Experimental Researches into Electricity*" should be read with deep attention by all who would understand this most interesting subject. The electrical hypothesis of water, may now be regarded as clearly proved; consequently, it may be viewed as the grand agent of all terrestrial meteorology; as the depository and medium of that elementary fire or essence, which, through the primary agency of solar light, is the vital, stimulating principle of vegetable development and growth, and coincidentally, as the instrument by which all manuring substances are brought into a condition to furnish the liquid aliment that is absorbed by the roots of a plant, and which we term sap.

We shall continue this subject in the next number. WM. W. VALK.

Flushing, L. I., Oct. 1847.

A SELECT LIST OF UNIMPEACHABLY GOOD FRUITS.

AN unknown correspondent, in Pittsburgh, writes us as follows:—"I am just in the midst of the improvement of a new place. My house is finished, my garden laid out, and now I am sitting at my table, up to my elbows in nursery catalogues—some of them almost books in size; and, shall I confess it, I am rather puzzled than aided in making a selection for my fruit garden. Among so many 'splendid,' 'first rate,' 'delicious' varieties, how am I to choose the few that I really want? Especially does this become difficult, when I look into the thing a little more closely, and observe that Mr. A. of Long Island casts a cloud of doubt over what Mr. B. of Western New-York considers of the highest excellence! In this dilemma, may not I, and other readers of your journal, (and undoubtedly there are many in my position,) look to you for a little impartial advice? Tell those, for example, who, like myself, don't wish to go into the fruit growing business, but merely to stock a small fruit garden with choice fruit, and choice fruit only, what sorts we may plant that will be sure to give us the worth of our money, and not to disappoint us, whatever may be our soil, in other words, *unimpeachable sorts*. This may be difficult, but it is to you we naturally apply in our difficulties of this nature."

Our correspondent asks for a selection not easily made, when he requires a list of fruits of the first "quality, whatever may be the soil." To give such a list requires a great deal of observation, and large accumulation of facts in fruit culture, from all parts of the country. The favorite fruit

of one section is not unfrequently found altogether rejected in another; and several of the most celebrated fruits in the world demand soil of a certain composition and certain depth, or they are of no value. Where these soils are found, they are, on the other hand, priceless.

Still it would be wrong to say, that something cannot be done for the guidance of those who are in the dilemma of our Pittsburgh correspondent; and since he has appealed to us for assistance, we will give him a brief select list of fruits that are, in our opinion, "unimpeachably good in all soils."

We do not, by this, intend to have it understood, that we think any list can be prepared that will, in fact, be "unimpeachable"—for fruit cultivators have their whims and hobbies like other men, and the complete success of particular sorts in their own soil, is a more powerful argument in their favor, to their minds, than the eulogies of a thousand other fruit-growers. But there are a few fruits which have won a *large vote*, by their *uniformity of character*—a uniformity based upon excellence, hardiness, and productiveness—that we think may be safely commended to those who wish to plant only a small collection, and do not desire to run the risk of having indifferent sorts in their garden or orchard.

Our list of Apples would include the following: *Early Harvest*, *Early Strawberry*, *Williams' Favorite*, *Gravenstein*, *Porter*, *Baldwin*, *Ladies' Sweeting*, *Rhode Island Greening*, *Roxbury Russet*.

The list of Pears would embrace the following: *Bartlett*, *Beurré Bosc*, *Dix*, *Fondante d'Automne*, *Gray Doyenné*, *Louise bonne de Jersey*, *Seckel*, *Beurré d'Aremberg*, *Winter Nelis*.

The list of Plums as follows: *Bleecker's Gage*, *Coe's Golden Drop*, *Diaprée Rouge*, *Green Gage*, *Jefferson*, *Lawrence's Favorite*, *Smith's Orleans*, *Purple Favorite*.

The list of Cherries as follows: *Baumann's May*, *Black Tartarian*, *Black Eagle*, *Downer's Late*, *Downton*, *Bigarreau*, *Elton*, *May Duke*.

The list of Peaches as follows: *Early York*, *George IV.*, *Grosse Mignonne*, *Coolidge's Favorite*, *Bergen's Yellow*, *Royal George*, *Old Mixon Freestone*, *Large White Cling*.

Of Apricots the following: *Moorpark*, *Breda*.

Of Nectarines the following: *Elruge*, *Early Violet*.

This selection is small, and the practised eye will detect the omission of many of our favorite varieties. For example, among Apples, the *Newtown Pippin*, and the *Fall Pippin*, are both, in their season, fruits of unrivalled excellence. Yet, though they succeed well in many parts of the country, and in some districts are the source of large profits, in others they fail almost entirely, from a want of adaptation in the soil. If the list were intended only for our correspondent at Pittsburgh, we should also recommend the *White Doyenné* Pear; but this finest of fruits, since it fails in so many places on the sea-board, can be no longer counted among the *unimpeachables;* and so with several others.

Again, there are some *new* fruits, of such remarkable excellence, that they eclipse, in our estimation, most of those in these select lists. But as they have not yet been tested extensively in various parts of the country, it is impossible to pronounce positively on their adaptation to general culture. Among these are the *Onondaga* and *Van Mons' Leon le Clerc* Pears, the *Early Joe* and *Northern Spy* Apples, etc., of hardy and vigorous habit; there can, however, be little doubt, that experience will hereafter give

them as foremost a place for uniform hardiness and productiveness as for high and delicious flavor.

It would be easy to swell our *select list* to double its size. But then we should have had partial doubts as to some points regarding several sorts to be named. As it stands now, it may be considered as vouched for by the most intelligent cultivators in various sections of the country, besides our own.

HINTS TO THOSE TRANSPLANTING TREES.

We have great satisfaction in observing that the old system of crowding the roots of trees into holes of the smallest possible size, is abandoned by every intelligent planter in the country; that the public generally begin to understand, that plants require food as imperiously as animals; and that in proportion as a soil is poor, thin, heavy, or impenetrable to the delicate fibres or spongioles which mainly collect nourishment from the soil, is it necessary to dig large and deep spaces for the roots of trees, and supply the soil with manure or rich composts.

There are, however, still one or two points in the practice of transplanting, that are by no means thoroughly understood, and upon which some of the best cultivators are not fully agreed.

One of these is, *whether the head or branches of a transplanted tree should be pruned at the time of planting?*

Theoretically, it is undoubtedly true, that pruning is unnecessary and even improper, since there is naturally an exact balance or proportion between the amount of roots and branches of a healthy tree.

In *Lindley's Theory of Horticulture*, touching this point, the author remarks:—"The great point to attain in the first instance, [in a transplanted tree] is the renovation of the roots, and that will happen only in proportion to the healthy action of the leaves and buds; if, therefore, the branches of a plant are removed by a pruning knife, a great obstacle is opposed to this renovation; but if they remain, new roots will be formed in proportion to their healthy action. The danger to be feared is, that the perspiration of the leaves may be so great, as to exhaust the system of its fluid contents faster than the roots can restore them, and in careless transplanting, this may doubtless happen; in such cases, it is certainly requisite that some part of the branches should be pruned away; but no more should be taken off than the exigency of the case obviously requires; and if the operation has been well performed there will be no necessity whatever."

This is sound *theory*, and we confess that we have so much respect for the natural symmetry of branches belonging to a well shaped tree, that we are always inclined to lean to the side of the largest protection and the least mutilation.

But *practice* has also its laws—its laws based on circumstances not always foreseen by theory—and laws so imperative as not to be neglected without serious loss or damage.

The question that practice immediately propounds to theory, in the business of transplanting, is how many roots may be lost in taking trees out of the ground, without demanding a rigid pruning of the branches?

The only case of transplanting which

can be considered perfect—that is to say, in which the natural balance of roots and branches is completely preserved, is when a plant in a pot is transplanted with its ball of roots entire. In this instance, since not a root is lost, the plant suffers no check, and hence this kind of transplanting may be performed successfully at any season. But every one familiar with the transplanting of trees and shrubs, as it is, and must be ordinarily performed, very well knows that it is difficult or impossible to preserve *all* the roots—and that, except in the case of favorite specimens, removed with especial care, a very considerable portion of the delicate fibres most essential to the supply of nourishment is lost.

Such being the case, (even in what is considered in this country, *careful* transplanting,) how much should the branches of the tree be reduced to keep up the balance?

A good deal of attention to this subject within a few years, has forced us to believe, against our earlier opinion, that a pretty severe shortening back of the head of a tree, is most decidedly beneficial, in all cases, except where the tree is so young that it has suffered no loss of roots in removal, or where the operation of taking it up has been performed with such extraordinary care as to preserve the balance of roots and branches.

There are also other circumstances besides the disturbance of the natural proportion of these parts of a tree, which have a decided influence on its success and vigorous growth after being transplanted.

The most important of these is the moisture of the climate. As it is well known that slips or cuttings of many trees and shrubs, will take root readily in a moist season, or in a damp situation, which almost entirely fail in a dry one, so the facility with which transplanted trees take root and recover their normal condition of growth, is far greater in a moist climate than in a dry one. Hence, it is evident, at a glance, that, in a country as moist as Great Britain, transplanting is much more easily performed, and trees will much more rapidly recover from the shock of removal, than in a country where there is more solar heat, and a less frequent and copious supply of rains.

This accounts, no doubt, for the very strongly marked difference in the practice of England and the Continent, in transplanting trees. While in the former country, trees, and trees of large size, are most frequently removed with their heads entire, or nearly so, in France and Germany it has long been the practice (commended too by by such able physiologists as De Candolle and Thouin,) to head back the tops of transplanted trees, in the severest manner, before planting them.

In a dry climate, and under the influence of bright sunshine, it is much more necessary to reduce the branches equally with the roots, since the perspiration of the leaves in the latter case is double that in a moist climate. Indeed, not only do the buds and leaves perspire, but the whole of the bark of the younger branches suffers a loss of fluids through its pores in a dry atmosphere.

Hence, as it is evident from theory alone, when these circumstances are all considered, it is only by reducing the head that we can prevent this excessive drain upon the fluids collected by the roots of the newly moved tree, which, if too great, must prove fatal to its life.*

For the last two seasons, an orchardist on the Hudson, who is a pretty extensive plan-

* It is owing to this disproportion, that many trees in this country, which start into leaf, and grow very well till July, die when the greater perspiration of the leaves takes place in that month.

ter of trees, has conducted some experiments, suggested by us, with a view to arrive at some satisfactory conclusions upon this subject, based upon practical data.

In 1846, he planted, in an orchard upon good mellow wheat soil, 180 apple trees. They were received from the nursery in the usual condition—that is, with the roots in fair order—but of course, like all nursery trees, somewhat shortened by the spade in digging.

They were all carefully planted in well prepared holes. Before planting, one-half of their number had their tops shortened back, so as to leave only one bud of the previous season's wood. The others were planted in the usual way, with their heads entire. The season was, on the whole, quite favorable. Of the ninety trees that had their heads pruned at the time of planting, only *two* died, and they nearly all made fine shoots—many of the latter, eighteen inches long. Of those that were planted with their heads entire, *eight* died; and though the rest started into healthy foliage, yet some of them lost the ends of their branches, few or none of them made shoots exceeding six inches in length, and not one of them had the deep green and luxuriant appearance at the end of the season, which the other half of the orchard presented. This, the second year's growth, is scarcely less markedly in favor of the pruned trees. They have now, not only larger and finer heads than those left untouched, but their heads are decidedly better shaped, and they are more luxuriant and promising in their general aspect.

The second experiment was tried this spring, on a small orchard of 78 peach trees. The trees were of pretty large size, being three years old from the bud. The site is a warm dry southern slope of a hill. One half the trees were headed back so much as to reduce their whole heads one-half, taking off the better part of two years' growth: the remainder were planted without any reduction of the top.

The season being drier than the last, the difference is more strongly in favor of the pruned trees than in the first experiment. Only one tree died of the thirty-nine that were so severely headed back, and the remaining thirty-eight have made fine bushy heads of new shoots. *Twelve* died of the thirty-nine not pruned, and of the remainder many have lost parts or the whole of the upper portion of their branches.

It would appear, from these experiments, that by pruning off a part of the head of a transplanted tree, not only is the natural balance restored, and too great a drain upon the roots prevented, but that a stimulus is given to the vital action, which results in the production of stronger and more luxuriant shoots than would otherwise have been produced. All the juices of the plant are necessarily expended in the growth of a few buds, instead of many—and a few strong and healthy shoots start out, instead of many feeble ones. The advantage holds good for more than one season, for as the sap flows more freely through the large sap-vessels of a thrifty shoot, than through the small and compressed sap-vessels of a feeble shoot, it follows, that the pruned tree, with its luxuriant young growth, will be in a much better condition to conduct the circulation of the juices which impel the growth of the plant in the coming spring, than the other, which has only short and stunted branches.

We have had a good illustration of this effect of pruning upon the vital action of a newly planted tree, in our own garden the present season. In removing an Osage Orange tree, about twelve feet high, with the trunk of the thickness of a man's arm,

we determined, in order to improve the shape of the head, to reduce the branches very considerably on one side only. Those on the opposite side were left at their full length. The tree expanded its leaves late, but upon the portion headed back, they expanded much earlier than on the remaining part. About the first of July, young shoots were pushed forth on all the pruned branches—while the unpruned branches began to show symptoms of failing entirely, by the shrivelling of the bark, and pale-yellowish color of the leaves. We then headed back these branches also. The good effect was almost immediately felt. The perspiring system of the tree was reduced to an equality with the absorbing, and all the fluids taken up by the roots were directed to the growth and nutriment of a few buds, instead of a great number. The tree is now covered all over with a thrifty growth of young wood—though the shoots are, of course, by no means so long as they would have been, had the shortening back been applied to the whole top in the beginning.

Looking at these practical demonstrations (with others that we have not room to detail at present,) we are obliged to say, that we must recommend, for this climate, the *Continental* rather than the *English* mode in transplanting. We think, in all cases, where the roots of the trees are large, and they have not been removed with unusual care, or where they are small and have lost a portion of their roots in the removal, a corresponding part of the branches should also be pruned away before replanting them. In small trees, it will usually be quite sufficient to shorten back half the current year's growth; in larger trees double that quantity may be cut off with advantage; and in particular cases, where but half the roots, owing to carelessness or bad management, have been obtained, half the top should also be cut off, to preserve the balance, and thereby the life of the tree.

In pruning trees during transplanting, a judicious pruner will not dock, or cut off the top with an absence of all care or respect of natural form, as if he had brought them to a guillotine, but he will shorten the branches equally on all sides, so as to preserve the native proportion of the head—or rather, so that when the new branches begin to grow, they may speedily be able to reproduce the natural symmetry again.

The only trees that must, we think, be excepted from these remarks, are *evergreens*, and especially *resinous* evergreens, or the Pine and Fir tribe. They suffer so much less by perspiration of the leaves on transplanting than deciduous trees, owing to the much smaller surface of foliage, which they present, and the fewer pores in the leaves themselves, that a reduction of the branches is by no means necessary or proper in most cases. When we add to this, that the leading shoot once destroyed, is seldom replaced by evergreen trees, without a loss of the entire symmetry of the tree, it will be seen that they require treatment entirely different, in some respects, from the deciduous trees.

The Baldwin Apple.—A correspondent says this fine apple does well in Western New-York, which has a climate much similar to that of Massachusetts; but at Cleveland, Ohio, it suffers from specks of black or dry rot, like those in the Pennock.

ON PRESERVING GRAPES FOR WINTER USE.

BY W. WILLIAMS, NEW-YORK.

DEAR SIR—The Isabella and Catawba grape vines are among the most valuable fruit trees known to Americans; for I am inclined to doubt greatly, if any other tree will bear so large and so regular a crop as they do, in all soils and in all sections of the country, except the upper part of New-England, where the climate is too cold for them.

They have been multiplied within the last ten years so much, in some of the Atlantic States, that there is now hardly a farmer's garden without one or more of these vines. In many farmers' dooryards I have noticed, with much pleasure, the Isabella grape, trained over a trellis in front of the kitchen or dairy, so as to make a cheap or very ornamental kind of verandah, such as you may see in Italy.

There are but few, however, of those who raise this prolific grape, who are aware how much the season in which ripe grapes are fit for the table, may be prolonged by a little care and management. Indeed, for my own part, I consider the ease with which these two grapes may be kept for winter use to be one of the strongest recommendations to their culture.

I will, if you will allow me, detail two modes of preserving these native grapes, that I have, for three years past, practised with success. They are, no doubt, familiar to many of your readers, but as I very seldom meet with this pleasant fruit at any of my neighbors' houses in winter, I conclude that it will also be new to many others.

At my farm, a few miles from the city, I have an ice-house well constructed, which keeps a supply of ice through the whole year. In this I practise one mode of preserving grapes. This mode is applied to those which I wish for more immediate use, say from the season of frosts till near Christmas.

I have, in this ice-house, a series of open shelves, made of thin and narrow strips of pine, so as to form slender lattices. As soon as there is danger of a frost which might injure the grape, (in general early in October,) I have the grapes for this purpose carefully picked, and laid in single layers on these lattice shelves in the ice-house. There the temperature is so low and regular, that no perceptible change takes place for a long time, and I am therefore, able to supply my table every day with grapes, as fresh, to all appearance, as when picked, for a month or six weeks after they are usually to be had in market.

The second mode is calculated to preserve them for a longer time. By its means, I usually have a good supply from Christmas to March, and have once or twice kept them quite sound till April.

It is very simple. The grapes should be gathered a little before full maturity—say the last of September here. A fine windy day should be chosen, and the fruit should be picked and packed away, quite dry, as upon this depends their keeping well. You should be provided with a proper number of small boxes, holding about a peck each, grape jars, or champagne baskets—the latter answer the purpose well, if lined loosely with paper before using them. I put a layer of cotton in the bottom, and then a layer of grapes, and so alternately till the box is full; I then cover with a layer of cotton, and fasten the cover down with nails or otherwise.

I do not find it best to endeavor to exclude the air entirely. Decay takes place sooner when that is done. For the same reason I have found it better to choose *small* boxes, such as may be opened every week, as wanted for use, rather than larger ones.

As it is considered by my family no mean addition to the dessert, these grapes in abundance in winter, I have no doubt there are numerous readers of the Horticulturist who will put this simple process of preserving them into practice. I ought to add, before closing my letter, that the boxes should be kept in a dry airy place, free from frost.

Your obedient, W. WILLIAMS.

New-York, Oct. 11, 1847.

[We will add a single practical suggestion to the foregoing remarks. Our correspondent does not state in what *form* the cotton is to be employed. We have been in the habit of preserving these native grapes much in the same way, for winter use, for ten or fifteen years past, and we find that the prepared sheets of the cotton *wadding*, to be found in all dry-goods shops, are much preferable for the purpose to the cotton *batting* generally employed. The former is equally soft, and its glazed surface prevents the fibres of cotton from adhering to the grapes, which is always the case when the later is used.—ED.]

THE HYACINTH AND NARCISSUS.

BY MR. GLENNY.*

THE soil in which the Hyacinth is so successfully grown in Holland is doubtless, the alluvial soil of the place, but much is done by dressing it. Naturally, a grey, sandy and not very rich earth, it requires then twice its bulk of manure, which is three-fourths cow dung, and one fourth vegetable mould. In England, the nearest we can get to perfection, in the way of compost is rotted turfs, not cut more than three inches thick originally, and allowed to lay in heaps till the vegetable parts have become mould; this should be rubbed through a coarse sieve that would let a marble through, and as it falls through on the heap, some one ought to be on the watch to detect the wireworm or grub, for they show very plainly as the earth falls through on the heap, and runs down the sides. One half of this compost, and the other half made up of two parts cow dung, and one part clean, well-washed sand, will grow the Hyacinth as well as they are grown in Holland [The common white sand of the sea-shore, is much the best for bulb composts.—ED.] The compost must be well mixed, and should lay together all the warm months, in a situation where it can have all the sun, and be turned over several times.

Preparation of the Bed.—In September dig out a space four feet in width, and as long as the number of bulbs to be planted in one bed require, reckoning that fourteen grow in every foot of length, namely two cross rows of seven in a row. Let the depth be two feet, and the place well drained. At the bottom, put three inches' thickness of cow dung, or horse dung rotted into mould or thoroughly decomposed; the dung from an old melon or cucumber bed will answer; upon this put the compost from the heap already described, and fill it up three inches above the surface of the ordinary ground, for the compost will subside; towards the end of the month, it will have sunk a good deal, and more must be put on, so as to make it quite level with the surface of the other ground.

Arrangement of the Bulbs.—To make a bed look to the best advantage, you must choose such bulbs as will all blow in one season, that is to say, at one time, for no-

* From the London Horticultural Magazine.

thing looks worse or more completely mars the effect of a bed, than to have some blooming, and others not showing colour in the early season, and some decayed, while the others are in flower when it is later. The colour should be diversified according to arrangement, and it would be well to get all the varieties of the same length or near it. The arrangement that would be most effective is that described below; it is impossible to give a better contrast in each row, or from row to row. It is also desirable to limit the varieties to one of each colour, that is to say, the dark blue only one sort, the light blue only one sort, and so on, each colour being represented by only one kind. The subjoined is the arrangement proposed:

dark red	white	light red	dark blue	light red	white
light blue	dark red	white	light red	white	dark red
yellow	light blue	dark red	white	dark red	light blue
dark blue	yellow	light blue	dark red	light blue	yellow
light red	dark blue	yellow	light blue	yellow	dark blue
white	light red	dark blue	yellow	dark blue	light red

The same may be repeated as often as the length of the bed requires. Experience may enable a person in time to improve greatly upon the first appearance, by adopting more than one variety of each colour, but it is better not to attempt it at first. The compost being quite level with the other part of the garden, the bulbs are to be placed six inches apart every way, and the best way to mark the place is to strain a line down the centre of the bed, and draw a slight drill or make a mark by merely pressing the line to the soil, by drawing the back of the rake along it; then stretch it in the same way six inches off, and by the repeating this, making the seven long marks. The cross marks may be made by pressing a straight rod in the soil slightly at six inches apart all the way down. On the points where the lines cross each other place the bulbs, and press them gently into the soil, so that they may not move when you cover them up; when they are all placed, put in some pegs at the different

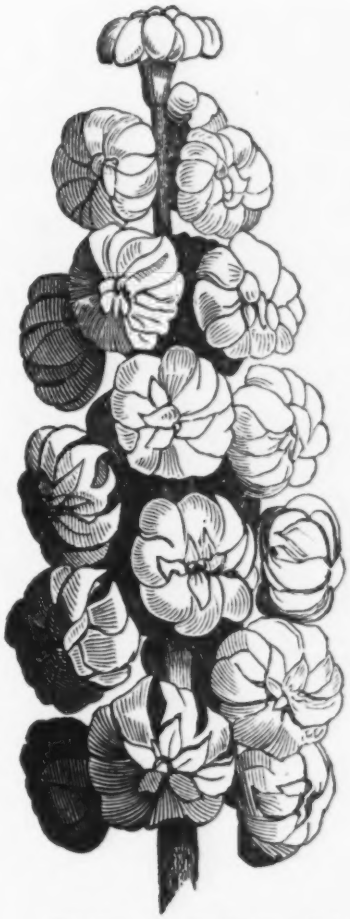

Fig. 32. *The Double Hyacinth.*

parts of the bed, the tops standing six inches above the base of the bulbs, and make up the soil to that height all over the bed. By rights, the bed should be boarded round with a six inch rim to fix on, for then the compost to cover in with would be so easily regulated. Have hoops or irons across the bed, to enable you to cover them against frost and heavy falls of snow or hail, and it is worth while to have a stage over them, and a cloth like those for tulips and carnations.

Management up to Blooming time.—The only necessary attention now is, to protect them against bad weather through the winter months; and for this purpose litter of any kind will answer all November, December and January. In February or March, according to the season, they will be above ground, and then the mats or cloths must be used; because the bloom buds, if affected no other way, will be greatly stunted in size by frost. [In this climate the spring opens much later, and there is little or no danger of injury to the

buds after they appear.—Ed.] As the blooms begin to show colour, they must be shaded from the violent heat of the sun and from strong winds; it may be necessary to place sticks, and tie up the stems of the taller kinds, but they cannot be too dwarf for beds. As the bloom advances they must be shaded from the sun, for it would materially shorten the period of their flowering if they were exposed to its scorching rays.

After Blooming.—The whole of the covering should be removed as soon as the perfection of the bloom has gone, and the plants must have the benefit of all the rain and air till the leaves turn yellow. They may then be taken up in as many baskets as there are sorts, and as a simple mode of doing it, perhaps the best way would be to take up one sort at a time, because there can then be no mistake; the kinds all form lines in particular directions, and the roots are so large, that there is no danger of missing any, like tulips, which occasionally elude our vigilance, however careful we may be. The bulbs should be taken to a shady place under cover, and be laid out to dry off, and remain there until the foliage is completely dead, after which they should be trimmed, that is, the stalks and leaves should be cut close, and the fibres pulled off, and the offsets taken away; they may then be put away for the season of rest.

Treatment of Offsets.—Prepare beds similar to those for blooming the finer bulbs, and plant the offsets in the same number of rows, but they may be three inches instead of six inches apart, one of the ways, whether across or lengthways is immaterial in respect of the bulbs, but probably it is best to have them close in the cross rows, instead of the long ones, on account of their being easier kept clear of weeds. Plant them so as to be four or five inches covered. When they are up, any that show bloom should be deprived of all the buds but one or two at the top of the truss or spike; one is enough if you can ensure it, though two are left until it is seen that the top one will stand. These beds need not have any protection beyond a little litter of some kind loosely laid upon the top. When the foliage has decayed down, the bulbs may be taken up as the matured ones are, and the whole sorted; the larger ones to be put in six inches apart instead of three; they are to be replanted and treated similarly each year, until they arrive at the size which is marketable, and this may be generally told by the size of the spike, which should be reduced to a single top pip, season after season, until it will come sufficiently large to look well with the matured bulbs. The object of depriving the spike of all its buds but one, is to throw the strength that would be divided among the flowers into the bulb itself.

Monthly Operations.—*January.*—The bulbs being in the ground, and requiring nothing but protection from hard frosts, should be covered with litter of some kind. [*Old* tan bark or dry leaves will answer.—Ed.]

February.—A continuation of protection being all that is required, the litter need not be removed until the plants are breaking through the surface.

March.—The beds may now have the sun, and all the air, if there be no frost; but must have the litter replaced on doubtful evenings, lest a frost should come on in the night. As soon as they are well up, the earth should be stirred between the roots, the compost being well crumbled, and laid close round the stems.

April.—The flowers will be developing themselves rapidly, if the spring has been mild, and the past winter genial. Before the flowers are opened, warm showers will be beneficial; afterwards they would only damage the bloom. The main roots will continue in bloom a long time, if carefully shaded. The offset buds must be looked to, and the pips reduced on each spike to one or two of the top ones; so also must seedlings that are beginning to flower. Younger seedlings, as well as the beds generally, must be carefully weeded.

May.—When the bloom has passed the perfection, sufficiently to be no longer appreciated for show, the coverings must be taken off, but until then the sun should never be allowed to shine on the open flowers. An arid sun and moderate rain are, however desirable for the perfecting of the bulbs. Keep every thing clear of weeds. Mark any seedlings that are likely to be useful as additions to the present varieties.

June.—This month the foliage will in general decay enough to allow of the bulbs to be taken up and placed in the shade to dry; those, however, which are seeding, will not be so far advanced, they will keep growing until the seed is almost ripe; of course there must be exceptions in favor of such plants. We have seen nearly every flower in a bed seed, and the plants keep growing till a late period; but if seed is not desired, the pips of bloom should be picked off as soon as the cloth is removed, or the other coverings taken away.

July.—This month they will have dried sufficiently to be deprived of their decayed foliage and stems, and be placed in bags. Seeds may be gathered of such as are standing out, and the bulbs taken up as soon afterwards as the leaves die down.

August.—Turn out all the compost from the beds, and lay it in ridges on each side, to be turned over occasionally to sweeten.

September.—Examine your bulbs, and sort them for planting. Never plant a doubtful one in the best bed, as it is obvious that in an arrangement so uniform, a missed bloom or a decayed plant would be a great eyesore.

October.—Plant the best bed and all out beds and offset beds; if there be any reason for keeping bulbs out of the ground, a month is no object, but this month is the best; from this time all the beds, especially seedlings, and beds of seed, must, at any cost be kept clear of weeds.

November.—Plant whatever may have been kept out of ground till now, and sow seed if not done already. Cover the seedlings and small offset beds with litter.

December.—Repeat the November treatment all through.

Properties of the Hyacinth.—Some of these are already appreciated a little, but none sufficiently distinct. There are a few of the present varieties which have long spikes of flowers, and those very compact —both of which are desirable—but they, for the most part, have very ill-shaped pips. There are others which have very prettily formed pips, of a great size, but they are far apart on the spike, and some hang awkwardly; and those who exhibit the flower, know but little as to what caprice is to decide their fate; but as the time when the flower can be seen forced has arrived, and the period for showing in pots is approaching, we take the opportunity of defining a little the properties which should be esteemed; as nearly all the points have been attained in different flowers, there is every reason to hope, that as soon as we persevere in raising seedlings in this country, and force the Dutch to follow the example, we shall make rapid advances toward obtaining several properties in the same flower. We commence with the pip.

Each pip or flower should be round, and not ragged. The petals should be broad, thick, blunt at the ends, not pointed, and reflex enough to throw up the centre well. The footstalk should be strong, and hold the flower out stiff in a vertical position, that is facing the spectator, and by no means weak, to allow the pip to hang with the face sloping toward the ground. The footstalks should also be of a length, to make the pips touch each other and no more. The pips should be large, for unless the pips be large, they cannot touch each other without very short foot stalks, and the flowers would be so close to the stem, that the truss itself would be no size. Double flowers should have the rows of petals above each other very regularly imbricated, so as to throw up the centre. The outer petals, therefore, of a double flower, need not reflex, and should not reflex as much as a single one, because the centre is raised by the second and third rows of petals.

The spike should be bold, round, compact, and pyramidal, with a number of flowers at the bottom, gradually diminishing to a single flower at the top. The flower stem should be very strong and upright, and no part of it should be seen from the lowest flowers to the top, in consequence of the closeness of the pips to each other.

The colours should be bright, clear, and dense, whatever the shade; and any better approach to scarlet, blue or yellow, than those shades we now possess, would be highly esteemed; flowers with dark eyes, very clear outsides, and those with striped petals, would be held to be better than selfs in general, but would give no point against form.

THE NARCISSUS.

The Narcissus is one of the most lovely of our spring flowers. The perfume is more powerful than that of most other flowers; and if there are too many in a room, it will affect any weakly person. It appears a powerful narcotic, and will give even robust persons a slight headache. The varieties most esteemed are those which bloom in large clusters. Both the yellow and white are esteemed, and many thousands are annually imported from Holland, and are grown as well in the common borders as in pots and glasses. They make a pretty display among the early spring flowers, and there are many different varieties which group well. The best possible effect can be produced by them in wildernesses, in large rough borders, clumps and geometrical gardens. The soil in which they succeed best is rich and light, but they will grow in any thing, from sand to stiff clay. In light rich soil the bulbs do not deteriorate, and the offsets may be grown up to maturity very soon, and they may be raised from seed without any difficulty. But the culture is so like that of the Hyacinth, that we need only repeat the directions in full, if we desired to go into details.

There is a difference between the mode of growing for the sake of stock, and growing for bloom. Those who grow for stock should take up the bulbs every season, and remove the offsets, to be planted out till they come to maturity; and even these are taken up every year, and kept out of ground some time to rest, and then planted again at the proper season, sufficiently far apart to enable them to swell and become good round bulbs. On the other hand, those who wise merely for quantity of bloom, let them remain in their borders or beds three years. There is then quite as much increase, but the roots, from being close together, and not having room to swell, become unsightly, and would not, in a general way, do for market; for the greater portion of those imported or brought to market in spring are for blooming in glasses, which expose the entire bulb; and if not handsome, for this purpose they would be unsaleable. The varieties which bloom with handsome trusses of many flowers, are commonly called Polyanthus Narcissus; but there are many that flower with a single bloom, others with two or three. The colours simply vary from yellow to white, some being yellow with a deeper coloured cup, almost orange colour; others are white with yellow cups; some are double, others single; some pure white—indeed one is called the paper white, and exceedingly pretty it is. Upon the whole, the numerous varieties of the Narcissus form a beautiful group, and will bloom in any way that the ordinary spring bulbs will flower. For this reason we have placed it among them in the following paper on the many ways of flowering the spring bulbs, such as Hyacinths, Crocuses, Tulips, and others, which will do well under the same treatment.

Properties of the Narcissus.—The great variety of this beautiful spring flower would almost seem to defy us to lay down general rules, yet there is no more difficulty in imagining what would be the most beautiful, than there is in any other of the numerous families for which we have already provided models of perfection.

It is very true that some Narcissus have only a single flower, others a large bunch—some are white, others yellow—some have narrow petals, others broad—but all are pointed. The only varieties, however, calculated for florists or show flowers, are those which have bunches or heads of flowers, and a few necessary qualities would render them beautiful objects.

First. The flowers should be circular and large.

Second. They should expand flat, and the cup which is in the centre should stand out well.

Third. The petals should be thick, smooth, firm, free from notch or roughness on the edges, and have no points.

Fourth. The bunch of flowers should not consist of less than seven; the footstalks should be of such length as to allow the flowers to touch each other at the edge, and present an even, though rounding or dome-like surface, with one bloom in the middle, the other six forming a circle round it.

Fifth. The stem should be firm, strong, elastic, and not more than ten inches in length. The leaves should be short, broad

and bright. And there must not be more than one flower stem to a show flower.

Sixth. If the variety be white, it should be pure; and the yellow cup should be bright. If the variety be yellow, it cannot be too bright.

Double flowers, and Narcissus of numerous kinds, with only one or two flowers in a sheath, will not be considered subjects of exhibition, except in collections of forced flowers.

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General Remarks on the Hyacinth, the Narcissus, and Bulbs in general.

There is so much similarity in the management required for the Hyacinth and Narcissus, that they ought almost to be coupled, as are Carnations and Picotees. As there is not the diversity of colour in the Narcissus, that we have in the Hyacinth, there is no temptation to grow them in beds; in all other respects, whether from seed, from offsets, or in growing matured imported bulbs, the management is the same. But we have left a large field untouched as regards the different modes of growing the Hyacinth. and confined ourselves to the out-of-door treatment; and reserved what we have to say of forcing and house-growing for bulbs in general, such as the early kinds of Tulips, the Narcissus, the Hyacinth, the Crocus, and other subjects, that we may treat them all alike.

Of the many ways in which a bulb may be grown, the most common are the following:—in water, in pots of mould, in wet sand, and in moss. All of these are well in their way, but for elegance give us moss; for ease, water; for a make-shift, sand; and for the sake of the bulbs themselves, pots of mould.

In Water.—Fill up the glasses till the bottom of the bulb will touch it, and constantly fill up the glass as the bulb absorbs it. The custom of putting them in the dark has become very prevalent; but experiments which have been tried, purposely to test the advantage derived from this plan, give no indication of its superiority. The Narcissus, Hyacinth, Crocus, and early Tulip, all grow well in water; and some that we have seen placed in a strong light from the first, have proved as strong and perfect as a similar number placed three or four weeks in the dark. The notion entertained is, that the roots should be developed before the growth of the foliage begins; and that in the dark, the roots grow, but the foliage does not advance materially. We have not found this to be the case, although we have, until the present season, acted upon the suggestion. River water or rain water is far better than water from a well, and we have changed it every three weeks, though filling it up as it is absorbed by the roots will do. We have invariably objected to putting anything in the water, although we have seen it done by many, for we have never seen anything gained in colour, strength, or size of flowers.

In wet sand.—This has no other recommendation than the saving of trouble, as compared with water, among those persons who fancied it necessary to be always changing it; and we feel quite convinced that the plants do not grow so strong in it as they do in water or mould. It has one advantage—its weight, which tends to steady the glasses or vases in which the flowers are bloomed. It is indeed easy to conceive, that where a vessel is filled with sand, which contains no nourishing qualities whatever, the plant may exhaust the fertilizing qualities of the water soon, because these must necessarily be a very small quantity; and although it may be filled up as often as necessary, and be kept full, all the nourishing properties in a small quantity must be much less than if the whole bulk were water. There is, however, so much in the bulb itself, that the flower and leaves will develop themselves with a very little assistance. Nevertheless, there is a vast difference in the strength of a plant fully nourished, and one starved by a limited supply.

In wet Moss.—This medium, properly prepared, and in a proper vessel, will be found both effective and pretty. Suppose it to be a flower pot—the hole at the bottom should be stopped; but the wet moss enables us to grow bulbs in almost any shaped utensil; a punch bowl, a salad bowl, a deep dish, basin, or jar, will do. A little sand at the bottom, and the moss pressed down level with the edge, will be sufficient; the bulbs are then placed on the surface, and rather pressed in than otherwise. If

the vessel be large enough to hold half a dozen or a dozen things, the centre may be a Narcissus, round this six Hyacinths, round the Hyacinths a row of early Van Thol Tulips, and outside of all a row of Crocuses, of the three different colours; or, as the Tulips are inclined to yellow, perhaps blue and white alternately will do better. The moss is to be wetted well, and fine green picked moss should be piled up all over the bulbs, which may be completely hidden by it. This might be done in a large punch or salad bowl, or round dish, or glass milk pan. Smaller vessels may be used with single bulbs, or with two or three or more. The moss in which they are placed, should be pressed down, and need not be of the finest colour; but that put at top, forming a rounding surface, and covering the bulbs, ought to be of the best colour, and the handsomest that could be picked; for the moss is of itself a pretty object, even before the bulbs throw up their green foliage. Those who prefer to see the bulbs, may merely put some of the best moss between them, and not enough to cover them.

In Pots.—It is the practice to pot bulbs close to or above the surface, to place them all under a heap of ashes, or sawdust, or sand, to be taken out as they are wanted for forcing. It is far better to obtain the pots made on purpose, twice the height of an ordinary pot, and to put the bulb on the soil with the pot only half-filled; then fill the pot so that a good three or four inches of compost is above the bulb: these may be plunged in the open ground, and covered with litter. The plant begins growing directly; and when required for forcing, from time to time, they only want to be placed in heat a little earlier, to make allowance for the time they are coming through the earth; and all the later ones, instead of having three or four inches of yellow foliage, which has been drawn up through the ashes or sawdust, or other medium in which they have been buried, will be found hardly through the compost, or, if through, by no means drawn up. This applies to all the hardy bulbs, that are capable of being grown in pots. The soil should be the same as has been recommended for beds; and the only care required is that of supplying water, so that the soil should never be dry; but as there is real nourishment in the soil, it must not be saturated with water always; on the contrary, the treatment should be much the same as other potted plants, such as Geraniums, which ought to be kept moist, but never wet. The pots should always be kept in a strong light, and until the flowers show colour, may have as much sun as possible, and air in mild weather, unless they are in forcing heat, which, of course, renders this improper. For forcing, the bulbs may be potted as early as September, and may be placed in heat at once; and from that time, till the end of December, they may be potted with pretty nearly as good success; but some bulbs are weakened by keeping out till that time, and others, even of the same varieties, may be picked out that stand very well. We prefer, on every account, potting early, and plunging the pots to their rims in the ordinary ground, merely covering with litter, to keep off the frost in case of a severe one. From this situation, they can be taken to force, as they are likely to be wanted; and they make far more handsome plants when so treated, than they do when buried in any thing; and the two or three inches growth is above instead of under the surface.

It only remains for us to name a few of the best and cheapest for the different purposes, always premising that every kind will grow well in pots, but that some do better than others in glasses.

Hyacinths.—*For Glasses or pots—early:* Waterloo, d. red; Groot Voorst, d. pale flesh colour; Duc de Normandy, d. blue; Alamode, d. blue; Passe Tout, d. blue; Alamode, d. white; Nannette, d. white; Grand Vainqueur, s. white; Paix d'Amiens, s. pink; L'Amie de Cœur, s. purple. *Later:* Panorama, d. red; Mignon de Dryf hout, d. blue; Lord Wellington, d. blue; Kroon Von Indien, d. dark blue; Pasquin, d. light blue; Anna Maria, d. white; Virgo, d. white, violet eye; Orondates, s. light blue; La Balaine, s. flesh colour.

For pots only—early: Charlotte Marianne, d. red; Madame Zoutman, d. rose; Aimable Rosetta, d. flesh colour; Vulcan,

s. light blue; La Deesse, d. white; Miss Kitty, d. white, red eye. *Later:* Robin Hood, d. dark blue; Globe Terrestre, d. light blue; Susannah Elizabeth, d. blue; Don Gratuit, d. white; Og, Roi de Basan, d. white; Sultan Achmet, d. white; Boquette d'Orange, d. yellow; Louise d'Or, d. yellow; Voltaire, s. white; St. Clair, s. red; Grand Vidette, s. light blue; Prince of Waterloo, d. white.

Narcissus.—*For pots or glasses:* Grand Monarque, white and yellow cups; Czar de Moscovi, white and yellow; Grand Primo, white and orange; Bazelman Major, white and yellow; Soleil d'Or, yellow and orange; New Yellow Primo, yellow; Double Roman, yellow and white; Paper White, pure white.—Jonquills, yellow, double and single.

Early Tulips.—Single: Clarimond, two varieties, rose and white; Van Thol, red and yellow; New Yellow Van Thol; Keizer's Kroon, scarlet and yellow; Paragon Constant, rose and white; Gold Standard, gold colour and red. *Double:* Van Thol, red and yellow; Tournesol, scarlet and yellow; La Candeur, white; Bonaparte, dark violet; Crown Imperial, red and white; Double Yellow.

DOES THE BERBERRY CAUSE BLIGHT IN GRAIN?

TRANSLATED FROM THE REVUE HORTICOLE.

There is a popular belief, in some parts of New-England, that the common Berberry (*Berberis vulgaris*) is the cause of a peculiar blight, not unfrequently found in grain fields in its neighborhood. Naturalists who have investigated this subject, have satisfied themselves that there is no foundation for this belief, as the grain blight is an entirely distinct species of fungus from that which grows upon the Berberry. The following remarks, by M. Pepin, from a late number of the Revue Horticole, throw some additional light on the subject.

The Berberry bush makes a good hedge, and we would suggest to New-England farmers to plant it along the roadsides, and trim it in hedge form, instead of rooting it out as an enemy to profitable agriculture. There are few native shrubs more ornamental than the Berberry, when at this season of the year it is laden with its numerous clusters of bright red berries; and it grows with ease in the poorest soil. On the estate of Horace Gray, Esq., at Nonantum Hill, near Boston, there is a Berberry hedge, which has been properly trimmed for three or four years, and is now a capital living fence. The following is a translation of M. Pepin's remarks.—Ed.

.....

The wet spring, and the frequent changes of temperature that we experienced at the commencement of the year 1846, did much injury to the development and formation of different grains, such as wheat, rye, barley, maize, oats, etc., which suffered much more from the rot and smut than usual.

There are some cultivators who are not sufficiently aware that this injury is owing to the presence of parasitical fungi, which develop themselves in grain, and which develop themselves with more intensity when *the early spring is damp, and the temperature of the nights very cold;* these atmospheric causes contribute much to the formation of mildew, and of the fungi peculiar to these plants.

There are also many cultivators who attribute this disease to the presence of *Berberry hedges*, planted near the fields of wheat and other grain for fences. But this has been proved not to be the case; botanists and physiologists have clearly demonstrated that the fungus which grows on the

Berberry, would not live upon grain, and that, in short, it is not the same disease. The same observation applies to the Savin tree, to which is attributed the sad effects of the disease of fruit trees, and particularly of the Pear tree. To dispel this idea, that the Berberry produced the mildew of grain, M. le President Seguier affirms, as a proof of the contrary, that he has on one of his farms, a field of grain surrounded by a hedge of Berberry, nearly 600 feet in length, and that the grain of this field was never affected by mildew, during the fourteen years that the hedge remained.

In the Royal School of Alfort, several experiments were made in 1815 and 1816, of which the result was to place beyond a doubt the impossibility of this injurious influence. I have seen these experiments repeated many times, in large parks, where Berberry bushes of very large size were growing, near which grain was cultivated, and if the disease was now and then discovered in it, it was always independent of this elegant shrub, to which, in some districts, it is to be regretted that such unfortunate effects are attributed.

Pepin.

AN EXPERIMENT IN TRANSPLANTING.

BY O. L., BALTIMORE, MARYLAND.

We received the following communication after our article in the present number, on transplanting, was in type. The experiment detailed was an interesting one, and serves as an additional illustration of the advantages of pruning transplanted trees, which we have there pointed out.—Ed.

.....

Dear Sir—I take the liberty of sending you the following account of an *experiment in Horticulture*, which, I think, may throw some light on the interesting question of pruning.

On Thursday, May 20th, of this year, a fine plant of *Lagerstræmia indica*, commonly called "Crape Myrtle," about eight or nine feet in height, and about fifteen or twenty feet in circumference, around the extreme branches, was taken up from a warm spot in the city of Baltimore, growin a private garden in a sheltered situation, with a view to its removal to my country seat. It was in full vigor and growth, the branches covered with young and healthy leaves, and the circulation going on uninterruptedly. The weather had been unusually dry, no rain having fallen for some weeks previously. The tree was carefully taken up, endeavoring to preserve as much as possible of the soil around the roots, but without any of the previous preparation of digging trenches, watering, etc., as recommended by Mr. Perkins, for transplanting trees in summer. The number of your journal containing his article, indeed, was not at hand, and the process as described by him and executed so successfully, did not occur to me. I made the attempt at a venture, and with scarcely a hope of success.

On lifting the tree to place it in the cart, most of the soil fell away from the roots in a loose powder, owing, doubtless, to the long preceding drouth. In this condition a piece of Russian bass mat was wrapped around the exposed roots, and the tree transported a distance of two miles, one man driving the cart, another holding by the stem of the tree, to prevent its being blown over by the wind.

It was placed in a hole in the lawn, previously prepared for it, and a small quantity of rich loam and well rotted manure mingled with the soil, and the whole nicely filled in around the roots; the tree was staked, and the *leaves* subsequently well sprinkled over every evening from the rose of a watering pot. This was continued for about three weeks, the leaves, in the mean while, drooping more and more upon the tree, becoming flaccid and shrivelled, exchanging their former healthy green for a yellowish sickly hue, and the whole appearance of the plant indicating a total failure. My gardener gave up the tree for lost, and discontinued watering it. We neglected it for about a week, during which time, its speedy death appeared still more certain.

Being particularly anxious to preserve the tree, as I had never seen it in flower, I determined upon an experiment, which reflection induced me to believe might possibly save it. The mental process, and the conclusion to which it brought me, were something as follows: The leaves upon this tree still remain, not one of them having fallen, nor has any single branch of it died outright; in other words, there is no local, circumscribed disease. On indenting the bark with the finger nail, its bright green colour sufficiently indicates that the circulation still goes on. This healthy appearance, however, of the inner bark, is less evident, the more nearly we approach the extremities of the branches, and most distinct near the base of the trunk. The extreme branches, with their leaves, look decidedly the worst; that is, those most remote from the central supply of sap. These facts naturally suggested the conclusion, that the roots still continue to take up a certain portion of nourishment from the ground, but that this circulating fluid, for some reason, fails to perform its office; fails to undergo those changes in the leaf, which are essential to the life and health of the plant.

On seeking for the cause of this failure, I attributed it to an *excess of leaf*—a disproportion between the extent of surface exposed to the sunlight, (every inch of that surface, too, making the same demand upon the supply of sap,) and the diminished supply of sap itself, occasioned by a number of the spongioles, or rootlets, having been removed during the operation of transplanting. Several considerations tended to confirm this view. In removing the plant, the roots necessarily suffered severely, their absorbent extremities were mutilated, so that they are incapable of furnishing the same amount of nutritive fluid to the body and leaves of the tree, which they previously did with ease, while the demand for that supply, the top of the tree being entire, continues unabated. The leaves again profit reciprocally, by the important function which they perform—it is as necessary to their health that that function should remain uninterfered with, as to the health of any other portion of the vegetable structure. Any deranging cause shows itself at once, in their altered appearance. When, from any general disease, a tree is about to die, the leaves usually present the earliest symptoms. When, in the autumn, the capillary tubes become impervious, from the deposition of organized matter, the leaves fall. Again, we know, that in transplanting at the proper seasons, a tree is more likely to survive, if judiciously pruned, before placed in its new situation, and probably for the same reason which I have given above, that the proportion between its absorbent and exhalent organs is kept within due bounds. Pruning in midsummer, when the sap is in full flow, speedily

develops new leaf buds, immediately below the part removed, which grow more rapidly than the original branch.

These reflections suggested the remedy to be applied—by removing a large portion of the foliage which now fulfils its office so imperfectly. By adapting, in this manner, the capacity of the instrument to the labor demanded of it, I conceived that the object might be acomplished. I directed the gardener, therefore, to cut away unsparingly all the upper portion of the head, leaving but a few branches here and there. This was done on June 26th, and the very next day I felt convinced, from the fresh, firm, erect aspect of the few leaves which had been left, that the tree would survive. Some refreshing rains about this time fortunately assisted the progress of the cure, and I had the satisfaction of beholding the plant, during the past summer, studded with its large and fragrant pink racemes, the admiration of all visitors, to whom, as you may imagine, I enjoyed the pleasure of relating the experiment.

As it may serve to illustrate the true principles of pruning, or, perhaps, suggest a practice which may be found useful in some cases, I take the liberty of transmiting it to you, agreeably to your request to amateurs, through the columns of your Horticulturist. Your obt. s'v't, O. L.

A VISIT TO THE JARDIN DES PLANTES AT PARIS.

BY L. B. PARSONS, FLUSHING, L. I.

It was on one of the most clear and beautiful days, which an early spring can boast, that, crossing the Pont d'Austerlitz, we exchanged the glittering show of the Paysages and the bustling crowds of the Boulevards, for the quiet beauty and fresh verdure of the Jardin des Plantes. Passing through avenues of large Linden trees, trimmed, and presenting the appearance of beautiful green arches, we wound our somewhat devious path among the shrubs and flowers, the well pruned hedges and noble forest trees, that contribute to make up the *tout ensemble* of one of the most interesting objects in the vicinity of Paris. The contrast was indeed striking; we had just left the crowded streets and confusion of the city, and suddenly found ourselves in the midst of quietness. Nature was here in her most varied form, and although we did not quite like her clipped and distorted appearance, yet there was sufficient untrimmed beauty and varied objects of interest to occupy many days very pleasantly.

This garden was founded by Louis XIII., and its prosperity much advanced by the efforts of Tournefort, Jussieu, and other eminent men. To Buffon, however, it owes its present perfect state, who was appointed its superintendent in 1739. He gathered around him many eminent naturalists, and devoted himself zealously to the interests of the Garden. Owing to the popular belief, that it was used for the culture of medicinal plants, it escaped the destructive excesses of the French Revolution, but was much neglected until Bonaparte's accession to power, when it received a fresh impulse. By a special agreement, it was protected from injury when the allied armies entered Paris in 1815, and since that period it has been continually advancing in prosperity, under the fostering care of the government. It is under the control of the Minister of

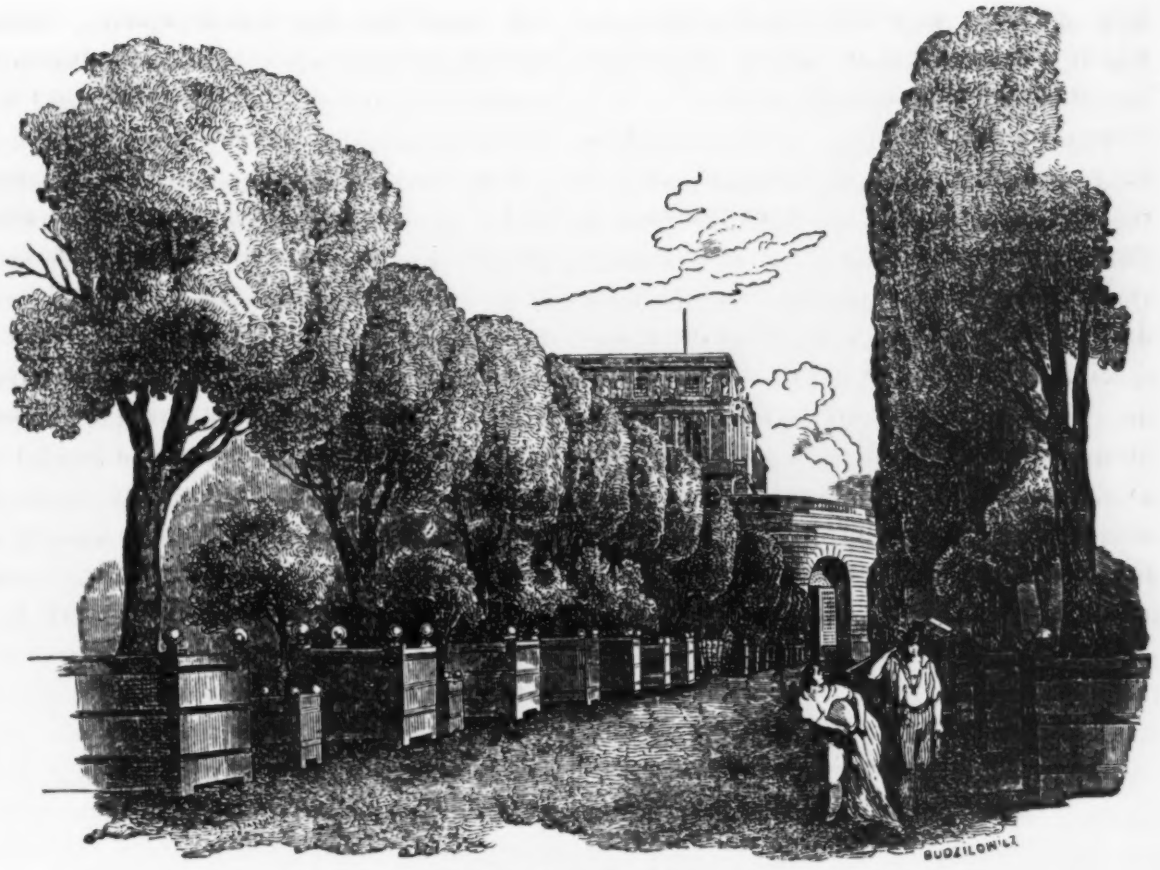

Fig. 33. *Entrance Avenue.*

the Interior, from whom, or his subordinates, we found it necessary to obtain tickets of admission to the green-houses and galleries. The garden itself is open to all. It is, perhaps, one of the most useful institutions in France, affording unusual facilities to the student of natural science. It includes very complete collections in the various departments of Ornithology, Entomology, Zoology, Mineralogy, Botany, Conchology, Ichthyology, and Geology. There is a fine gallery of Comparative Anatomy, and its anatomical collection is unsurpassed, excepting by that at Florence, which is, perhaps, the most perfect existing. The Menagerie is very extensive, the Botanic Garden is very well arranged, and the houses for exotic plants are large, but not equal to many we saw in England. There is, also, an excellent library of Natural History, and an amphitheatre with laboratory and apparatus for public lectures on every branch of natural science. These lectures are all gratuitous, and are continued for more than half the year. It is one of the most agreeable features of all these French establishments of instruction, that they are open to all, free of charge. There is nothing of the kind in England, or in this country, and yet if one tenth of the sum expended in the Florida and Mexican wars, had been appropriated to these purposes, it would be difficult to estimate too highly the advantages that would accrue to all classes in this country.

Of the appearance of the garden, we can perhaps give the reader a better conception by describing its details, as they appeared to us in passing through its avenues and winding paths.

On entering the gate at the eastern or Seine end, the eye rests at once upon the

long avenues of noble Linden trees, of which we have before spoken, and whose branches are so skilfully trimmed, as to present to the observer beneath a beautifully arched canopy of living green. In the distance, at the other extremities of these two fine avenues, is seen the cabinet of Natural History. On the left, and along the southern side of the garden, are fine specimens of forest trees of various kinds, the Coniferæ being arranged separately. Immediately in front, and extending the whole length of the garden, are the beds of small plants, arranged botanically, and containing nearly all the known hardy plants for medicinal or domestic use. There is also a sunken space, surrounded by a railing, which presents, at the proper season, a gorgeous display of flowering shrubs. To the right of these, is a range of inclosures, forming part of the School of Botany, and containing a complete botanical collection—some 12,000 species—for the use of students of this branch of natural science. Beyond these, in the same range, are spacious buildings for the geological, mineralogical, and botanical collections. Farther west, is an enclosed space, containing a pomological garden and hotbeds. Behind these, stands a long range of conservatories, the form and contents of which we may detail hereafter. Between two of these is a broad walk, leading to two artificial elevations, one of which is planted with specimens of every known variety of the Coniferæ. The other is called the labyrinth, from its winding path, bordered by close hedges, some six or seven feet high, and ascending to the top where the visitor is glad to rest in a comfortable pavilion with seats. From this point is a very extensive view of the whole garden and the city and country adjacent, and from this point was made the drawing for our engraving, (see frontispiece.) On this mound, near the top, is a granite column, on a pedestal of various minerals—a monument to the memory of DAUBENTON.

Just beneath the labyrinth is a very fine Cedar of Lebanon, apparently older than any we saw in England. It was presented by Collinson to Jussieu in 1734, and now measures about ten feet in circumference, at seven feet from the ground. Near this is an enclosed space containing a lecture room, the botanical gallery and a residence for the Professors. The lecture room is said to hold some twelve hundred persons, while nearly double that number attend some of the various lectures delivered there. Near these buildings is the commencement of the menagerie, which to many visiters is the most attractive part of the garden. The wild beasts are kept in a large building, and are arranged advantageously in dens, with strong bars of iron. They are fed regularly at a certain hour, when there may generally be seen a crowd collected to view the performance. The tame animals are kept in little parks or enclosures, one of which is devoted to each species, and a suitable house or shelter provided for each. In one place will be found camels, zebras and other tropical animals, while in another our North American bison, and various animals from the north of Europe and Asia luxuriate in the comparative freedom which is granted them. The bison, however, the elephant, and the giraffe, are kept much of the time in a large high building, called the rotunda, erected especially for their accommodation. The aviary, or rather *volerie*, contains many varieties of the eagle and vulture, and there are also some very beautiful pheasants, with ostriches, cassowaries, aquatic birds, &c. A crowd is generally collected about the paved pits in which are kept the bears. Each of these is provided with a cell, and

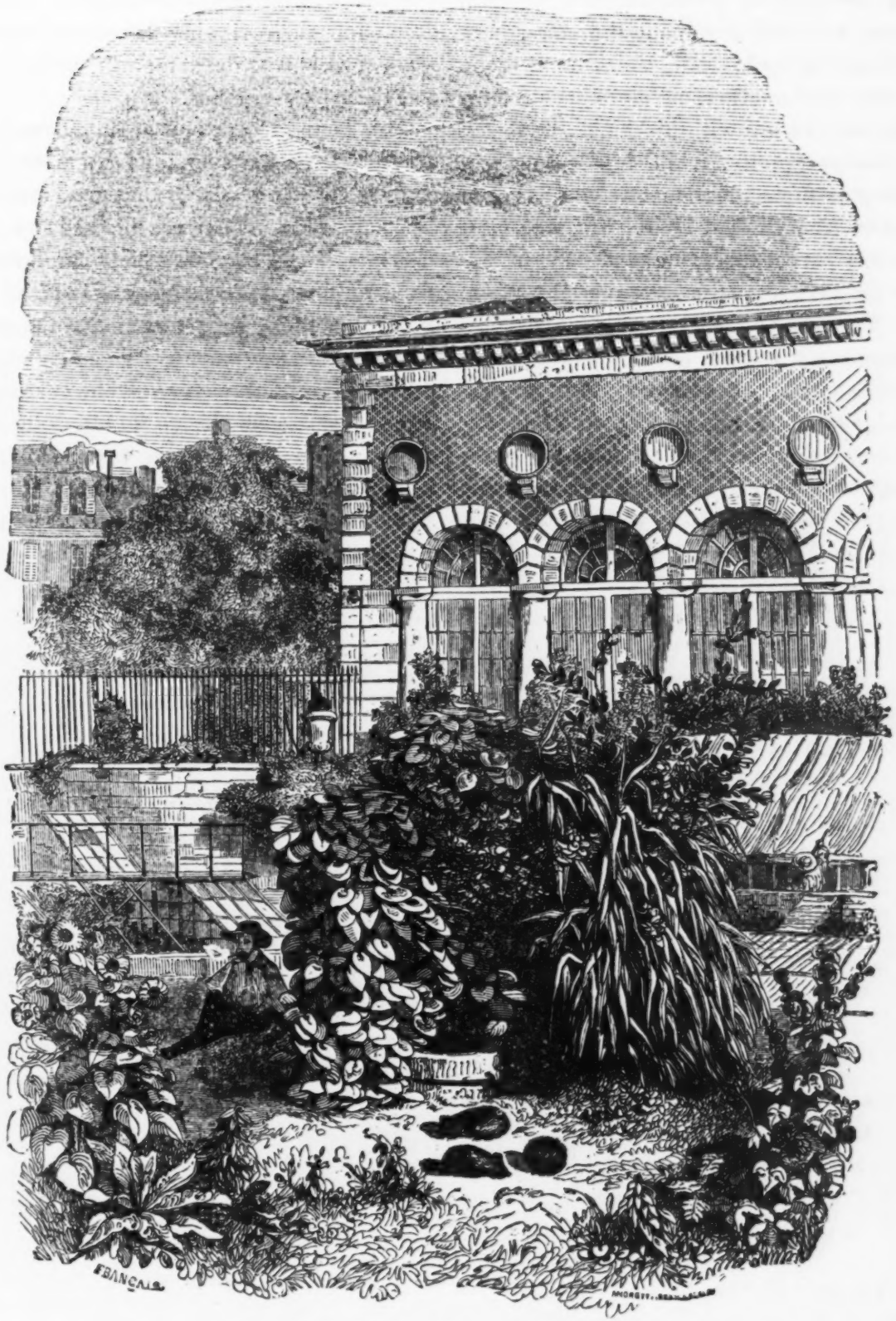

Fig. 35. *The first Green-House erected in the Garden.*

a stake in the pit on which they exhibit their clumsy feats of climbing. The most attractive spot, however, in the whole garden is a stone building, with an immense wire cage in front. In this is kept the simian tribe, commonly called monkeys, and

on a fine day they are all out of their cells, leaping and frisking about the cage, here one hanging by his tail, there another by one leg, and another, of more sedate temperament, sitting with his hands folded in all possible gravity, while in a corner will be seen a couple affectionately saluting each other in Kamskatkan style. But the most amusing part of the scene to me was to witness the delight of the juvenile lookers on, at every antic of these strange caricatures of humanity. The little fellows would fairly scream and caper with delight, and when one more active monkey than the rest would suddenly box his neighbor's ear, or with a nut shell hit another on the nose, their joy could scarcely be contained within bounds. There is no forced mirth in children, and their ringing laughter was always sufficient to draw me to the monkeys and their play grounds.

This is one of the best arranged zoological collections existing, and offers unusual facilities for studying the natures and habits of animals. They are allowed so much liberty, and are so comfortably cared for in every respect, that the student has many opportunities of seeing them under the most favorable circumstances. There is also a gallery containing a very extensive collection of dead animals, of which, with the various other galleries, we must reserve a description until another number.

L. B. PARSONS.

REVIEW.

LETTERS ON AGRICULTURE, *from His Excellency* GEORGE WASHINGTON, *to* ARTHUR YOUNG *and* SIR JOHN SINCLAIR, *etc. Edited by* FRANKLIN KNIGHT. Washington, 1847. Published by the Editor. New-York, Baker & Scribner. 1 vol. quarto, with plates, 198 pp.

FOR a long time, the halo of WASHINGTON'S civil and military glory has kept out of view his extraordinary talent in other directions. Mankind, too, are so reluctant to allow great men the meed of greatness, in more than one sphere of action, that there has, we think, always been a national want of faith regarding the pre-eminence as an agriculturist, to which WASHINGTON is most undeniably entitled.

We are inclined to think that, considering the great disadvantages of the time in which he lived, he was one of the wisest, most successful, and most scientific farmers that America has ever yet produced.

WASHINGTON, as it is well known, was a very large landed proprietor. Before the Revolution, he was one of the most extensive tobacco planters in Virginia. His crops of this staple, he shipped in his own name, to Liverpool or Bristol, loading the vessels that came up the Potomac, either at Mount Vernon, or some other convenient point. In return, he imported from his agents abroad, improved agricultural implements,and all the better kind of clothing, implements and stores needed in the domestic economy of his estate. During the Revolution, although necessarily absent from Mount Vernon, he endeavored to carry out his plans by frequent and minute directions to his manager there.

No sooner had the war closed, than WASHINGTON immediately retired to his beloved Mount Vernon, and was soon deeply immersed in the cares and pleasures of the life of an extensive landed proprietor. But it was by no means a life of indolent repose, though upon an estate large enough to secure him in the possession of every comfort. The very first year after the war, he directed his attention and his energies to the improvement of the mode of farming

then in vogue in the whole of that part of the country.

He quickly remarked, that the system of the tobacco planters was fast exhausting the lands, and rendering them of little or no value. He entered into correspondence with the most distinguished scientific agriculturists in Great Britain, studied the ablest treatises then extant abroad on that subject, and immediately carried into practice the most valuable principles which he could draw from the soundest theory and practice then known. At a time when the planters were thinking of abandoning their worn-out lands, WASHINGTON began a new and most excellent system of *rotation of crops*, based on a careful examination of the qualities of the soils on his estate, and by substituting grains, grass, and root crops, for tobacco, he soon restored the soil to good condition, and found his income materially increasing, while his neighbors who pursued the old system, were daily growing poorer.

Nothing was more remarkable, among the trials of this great man's character, and nothing contributed more to his success in all he undertook, than the complete manner in which he first mastered his subject, and the exact method in which he afterwards marked out and pursued his plans.

In farming, this was evinced in the thoroughly systematic course of culture which he adopted on his Mount Vernon estate. This estate consisted of about 8000 acres, of which over 2000 acres, divided into five farms, were under cultivation. On his map of this estate, every field was numbered, and in his accompanying agricultural field book, the crops were assigned to each field for several years in advance. So well had he studied the nature of the soils, that with slight subdivisions and experimental deviations, this scientific system of rotation was pursued with great success, from about 1785 to the close of his life.

After about four years—the most agreeable, doubtless, of his whole life—passed at Mount Vernon, in its improved condition, he was again called, by the spontaneous voice of one people to the Presidency. Much has been said and written about the reluctance of CINCINNATUS to leave his farm, and return to the service of the Roman Republic; but the sources for regret in his position must have been small, compared to those which WASHINGTON felt, when he left Mount Vernon on this occasion. The farm of CINCINNATUS, which has been rendered famous in classical history, was an hereditary allotment of *four acres*, and its cultivation was part of the daily toil of his own hands. Mount Vernon, on the other hand, was one of the largest and loveliest estates in America; it stood amid the rich landscape beauty of the Potomac, its beautiful lawns running down to the river, its serpentine walks of shrubbery, its fruit and flower garden, planted by its master's own hands,* and its broad acres rendered productive by an intelligent and comprehensive system of agriculture of his own construction—think, oh ye who have never thus taken root in the soil, how hard it must have been for WASHINGTON *the Farmer*, to surrender again, even to the flattering wish of a whole nation, the life that he so much loved, for the hard yoke of what he felt to be the most difficult public service!

It is the best proof of how thoroughly devoted by natural taste was WASHINGTON to agriculture, that instead of leaving Mount Vernon to the charge of the excellent

* WASHINGTON's residence exhibited every mark of the cultivated and refined country gentleman. He appears to have had considerable taste in ornamental gardening; he decorated his pleasure grounds with much effect; and his diary shows that he collected and planted a variety of rare trees and shrubs with his own hands, and watched their growth with the greatest interest. He employed skilful gardeners, and pruning was one of his favorite exercises.

agent whom he had well grounded in his own system of practice, and who could no doubt have continued that practice with success, he never lost sight for a moment amid all the pressing cares of public life, of his rural home, or his favorite occupation. We can scarcely give a better idea of the man and his system, than by the following extract, touching this very portion of his life, from SPARKS' admirable biography :

"With his chief manager at Mount Vernon, he left full and minute directions in writing, and exacted from him a weekly report, in which were registered the transactions of each day on all the farms, such as the number of laborers employed, their health or sickness, the kind and quantity of work executed, the progress in planting, sowing or harvesting the fields, the appearance of the crops at various stages of their growth, the effects of the weather on them, and the condition of the horses, cattle and other live stock. By these details, he was made perfectly acquainted with all that was done, and could give his orders with almost as much precision as if he had been on the spot. Once a week, regularly, and sometimes twice, he wrote to the manager, remarking on his report of the preceding week, and giving new directions. These letters frequently extended to two or three sheets, and were always written with his own hand. Such was his laborious exactness, that the letter he sent away was usually transcribed from a rough draft, and a press copy was taken of the transcript, which was carefully filed away with the manager's report, for his future inspection. In this habit, he persevered with unabated diligence, through the whole eight years of his Presidency, except during the short visits he occasionally made to Mount Vernon, at the close of the sessions of Congress, when his presence could be dispensed with at the seat of government. He, moreover, maintained a large correspondence on Agriculture with gentlemen in Europe and America. His letters to Sir John Sinclair, Arthur Young and Dr. Anderson, have been published, and are well known. *Indeed his thoughts never seemed to flow more freely, nor his pen move more easily, than when he was writing on Agriculture, extolling it as a most attractive pursuit, and describing the pleasure he derived from it, and its superior claims not only on the practical economist, but on the statesman and philanthropist.*"

The volume before us, which Mr. KNIGHT has given to the public, in a very handsome quarto form, consists mainly of the correspondence referred to in the preceding quotation. The letters to Sir JOHN SINCLAIR are rendered more interesting by their being facsimiles, showing the fine bold handwriting of their illustrious author. Besides there is some very interesting collateral correspondence by JEFFERSON, PETERS, and others, throwing additional light on the husbandry of that period. Engraved portraits of GENERAL and MRS. WASHINGTON, views of the mansion at Mount Vernon, a map of the farms, etc., render the volume more complete and elegant.

It is not as conveying instruction to the intelligent agriculturist of the present day, that we commend this work ; for the art and science of farming have made extraordinary progress since this early era in the history of our country. But it is as revealing a most interesting and little known portion of WASHINGTON'S life and character, in which his own tastes were more peculiarly gratified, and in which he was no less successful, than in any other phase of his wonderfully great and pure life.

DOMESTIC NOTICES.

THE BEST BUILDING MATERIALS.—Will you be so good as to give us your opinion as to the most proper materials for a dwelling house, where all are equally convenient—whether brick, stone, or wood: 1st. With regard to health: 2d. Cheapness: 3d. Facility and propriety of ornament, with creepers, trees, &c.: 4th. Durability. Yours, *E. Nichols, Walhonding, Ohio.*

ANSWER.—We repeat here, in reply to our correspondent, the following remarks, written by us, and published in the American edition of "*Hints to Young Architects*:"

"Of what *materials* to build, is one of the first questions to be settled, when the site of the house has been determined upon. In some parts of the country, indeed, the abundance and cheapness of one material, and the scarceness and high cost of others, renders it imperative upon the majority to employ that which is most easily obtained. A large part of the United States is still in this condition, with regard to wood, which, especially in the new States, is still so abundant as to be much the cheapest building material. When it is necessary to build of wood, our advice is, always to choose a style which is rather light, than heavy—in other words, one in which the style and materials are in keeping with each other. It is as false taste to erect a wooden building in a massive and heavy style, which originated in the use of stone, as it would be senseless to build a mock fortification, intended to stand a real siege, whose walls and battlements are of thin pine boards.

"In the atlantic States, however, a large portion of the better class of houses, erected within the last five years, are of rough hard brick, covered on the exterior with a coat of cement. This affords, on the whole, perhaps, the warmest and dryest house in winter, and the coolest in summer, that can be built. The art of stucco-work, or cement plastering the exterior of the walls, formerly badly performed, is now becoming well understood, and when well done, (and more especially when protected by a projecting roof,) it will last, without repair, for twenty or thirty years. On this account it is greatly to be preferred to wood which requires painting every third or fourth year, to preserve it from decay. Any pleasing, neutral, stone tint may be given to stucco, and thus all the effect of handsome dressed stone obtained, at one-fourth its cost. There is no doubt that, from its many advantages, brick and stucco is destined to become the prevalent mode of building the better class of country houses.

"Where *stone* of an agreeable color can be obtained, we do not hesitate to give the preference to it. It makes the most solid, substantial, and enduring house, and there is, perhaps, a look of permanence about a fine stone mansion, which no other material ever has. But one would decidedly prefer brick and stucco, for a cottage or dwelling of moderate size, to stone of a cold or gloomy color, such as dark blue limestone, or dark granite. The expression of a cottage or villa of moderate size, in the country, should, by all means, be that of cheerfulness; and, when built of a dark stone, it can scarcely fail to be the opposite. Only in a large mansion do we think dark stone can be happily employed for a dwelling house, since there it often adds to the grandeur and dignity of effect.—Some of our lighter freestones, like that of Trinity Church, New-York, and that so much used in Cincinnati, are beautiful building materials, which cannot be too much or too frequently used.

"There is a strong prejudice, we find, in the eastern States, against stone houses, which we think entirely erroneous, and which retards the progress of domestic architecture; for it is undoubtedly true, that this art advances in proportion as the materials employed possess solidity and permanence. This prejudice has arisen from the bad manner in which the old stone houses of that part of the country were all constructed. There were two errors in their construction; 1st. The foundation walls were often laid in damp or springy soil, with common lime mortar: 2d. The interior walls were plastered on the solid walls of the house, without *firring*. Now it is impossible, that a house built in this way, should be dry. The moisture of the soil is absorbed by the foundation walls, and is carried up, by capillary attraction, often as high as the second story, and the dampness which the outer walls absorb in long storms, passes through, more or less, to the walls of the rooms. To prevent the former evil, it is only necessary to lay the foundation walls with a mortar composed of cement, or water lime, and sand, instead of the common lime and sand—this effectually prevents all dampness being absorbed or conducted up from the soil itself. To prevent all dampness finding its way from the outside to the inner walls of the rooms, what is technically called "firring off," that is, making a hollow space between the lathing and the outer walls, is a most effectual and simple remedy."

To the foregoing we will here add, that the health of a dwelling depends almost entirely on the dryness of the walls, and the foregoing will show how stone or brick walls may be rendered perfectly dry at all seasons.

As regards "facility and propriety of ornament with creepers, &c.," that is a question which relates more to the *style* than the *materials* of a dwelling. The more rural styles, such as the English cottage, the Swiss, and the Bracketted Italian, allow, and indeed almost require the support of the richest accessories of climbing plants, and all the intricacies of trees and shrubbery. The more highly finished classical modes, on the other hand, may be surrounded by trees, but are seldom improved by any portions of the edifices themselves being hidden by vines and creepers.

Stone walls, or brick walls, (the latter of course painted with some soft agreeable color,) are much better adapted to the growth of such plants as the Ivy, Virginia Creeper, &c., than any others, since wooden structures are more liable to be injured by

the growth of creepers upon them, than those built of solid materials.

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LARGE CHESTNUTS.—We are indebted to D. TOMLINSON, Esq., of Schenectady, for a sample of some *native Chestnuts*, of very large size, which we have planted, in the hope of producing still larger varieties. Our native nuts have hitherto been kept entirely without the pale of horticultural improvement. There is no doubt whatever, that the size of our Hickorynuts, Chestnuts, Butternuts, &c., may be doubled, and their flavor greatly improved, by selecting and planting the largest and finest seeds of such native specimens as are most remarkable for their qualities ; and certainly fruits so valuable in their wild state, are worthy of some attention by the arboriculturist, and the originator of new fruits.

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STRAWBERRIES.—*Dear Sir* :—The writer of the article on this subject in your last, (*Wm. W. Valk*,) has never inspected my strawberry grounds, and there is no other garden in which my rarest varieties can be found. I will therefore simply add to my previous remarks, that the two Secretaries of the Long Island Horticultural Society, who are highly respectable and honorable men, have very frequently overlooked, with me, the various new and estimable varieties of Strawberries, and if my communications are not invariably correct, I call upon them to controvert me. I have no wish (unless in responding to attacks,) to trespass on the patience of your readers, except when I have something interesting to communicate. *Wm. R. Prince, Flushing, L. I., Oct.* 15, 1847.

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QUERIES ON HEDGES.—In your editorial for the June number of the Horticulturist, you recommend the Cedar of Lebanon, as being worthy of cultivation in this part of the United States. In an ornamental point of view, it no doubt possesses all the merits you claim for it, but I wish to inquire if it also has the *everlasting* property of our common Red Cedar—in short, whether its timber would make posts as durable as those of the Red Cedar, (*Juniperus virginiana.*)

If it possesses this important requisite, I should suppose it would be worthy of cultivation for its timber alone, as its large growth would supply the important desideratum (wanting in the Red Cedar) of furnishing logs large enough to make timber suitable for any purpose.(*a*)

A word about hedges. In this vicinity, the Red Cedar grows naturally, and from its thick habit of growth, branching out near the ground, and the stiffness of its timber, I have thought that it might be successfully used for hedges. Have you any experience on the subject? The only thing I should fear would be, that it would be browsed by cattle, or would the peculiar pungent taste of its foliage prevent this? (*b*)

After reading your "Chapter on Hedges," I last spring procured from the east 1000 Buckthorn plants, seedlings of one year's growth. The hedge was planted after your direction, and the plants have grown remarkably, some of them being now two feet high, though cut off within an inch of the ground at the time of planting. But as yet they are by no means in good condition to go into battle, being totally without armour of any description.—Not a thorn, prickle, nor point of any kind, has yet made its appearance. Will age increase their ferocity, as it does that of some animals? and if so, how long before I may expect them to begin to show fight? It is said that the medical properties of this plant, will prevent mice from eating its bark. Will the same cause prevent cattle from browsing its foliage? (*c*) Yours. *A Subscriber in Ontario Co. Sept.* 29, 1847.

(*a*) Though the timber of the Cedar of Lebanon was very highly esteemed by the ancients, it does not possess the durability of the American Red Cedar.

(*b*) There are miles of Red Cedar hedges on Long Island, and in some parts of Pennsylvania. The farmers there make a rude hedge by *plashing*, or interweaving it, and it is very permanent. But it is only when regularly sheared, or trimmed, like the thorn, that the Red Cedar makes a satisfactory hedge. There is a fine example of this in the nursery of Mr. JAS. WILSON, near Albany, where a specimen of the Red Cedar hedge may be seen, as nearly perfect as any thing of the kind well can be.

(*c*) The thorns of the Buckthorn are produced at the end of the shoots, and are not much developed till the hedge has three or four years of growth, when they are sufficiently numerous ; trimming the hedge increases their number and protective qualities every year.

Cattle will not browse upon either the Buckthorn or the Red Cedar.—ED.

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CINCHONIA, OR PERUVIAN BARK.—The preparation of this bark, sulphate of quinia, is used more extensively in the various grades of intermittent fevers, in the west, than all other remedies, and it is a most costly one, and often difficult to procure.—Can quinia not be obtained from some shrub or plant native to this country, and at less expense? A shrub here called *wahhoo*, I know not its botanic name, is the best known substitute for quinia. It has an unusually thick liber, of great strength, and seems to be equally effective in the same diseases, and requiring less dose, than of Peruvian bark, but greater than of quinia. The next best substitute is Boneset, (*Eupatorium perfoliatum.*) It seems to me highly probable one of these, or some other native plant, would supply this highly important article in abundance. Are there not among your readers scientific gentlemen, who for the good of their country and the relief of the suffering, or the love of gain. can be induced to experiment on this matter? *E. N. Walhonding, Ohio.*

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POMOLOGICAL NOTES FROM RHODE-ISLAND.—Yesterday I sent you the *Wescott* pear. There were sent four specimens of this fruit exhibited at our annual shows, all of which were slightly too ripe, so that its quality could not be so fairly tested by them as desired. I send you a description and outline of the Abbott Seedling. I regret that we could not furnish you a specimen of the fruit, but we had not a single one to spare. These two varieties are, in our opinion, of first rate excellence,

and surpassed by but few, ripening at or near the same period. I also send you specimens of the Esten apple, which we believe to be worthy of cultivation.* Its flavor is so mild and agreeable as to lead to some difference of opinion whether it should be called a sweet or acid fruit. The following is a description of the

Trescott Pear.—Originated on the farm of Niles Trescott, in Cranston, R. I. Fruit medium size, roundish obovate, in some specimens a little flattened laterally; surface even; skin pale green when fully grown, becoming a light orange yellow as it ripens, covered with minute gray dots, with occasional cinnamon russet blotches; stem from an inch and a half to two inches long, slender, bent, and inserted by a fleshy nob in a very slight depression; calyx large, open, and placed in a slightly plated basin. Flesh white, very fine grained, melting, juicy, with a pleasant saccharine flavor. It ripens from the middle to the last of September.

Abbott Pear.—Originated in Providence, R. I., from seed planted by Mrs. Thomas Abbott. Fruit medium size, oblong obovate, resembling in form the Washington pear; surface even; skin smooth, dark green, with a reddish brown cheek, changing as the fruit matures to a bright scarlet; stem about an inch in length, moderately stout and slightly curved, inserted in a very slight depression; calyx small, closed, and placed in a shallow basin; flesh melting, sprightly and very saccharine. It ripens from the middle to the last of September.

Esten Apple.—Presumed to have originated in Burrilville, R. I., on the farm of Judge Esten. Fruit large, oblong, tapering roundly to the eye, and slightly ribbed; skin smooth, of a lemon color, with an occasional blush, dotted with large green and red dots; the stem slender, an inch in length, inserted in a very deep cavity; calyx closed, plated, and set in a shallow basin; flesh white, fine grained, mild, with a pleasant champagne flavor. It ripens from October to January.

The tree is extremely vigorous and very productive, with light brown smooth shoots.

L. C. EATON,
Chairman of the Committee upon Fruits,
R. I. Horticultural Society.
Providence, Oct. 1st, 1847.

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THE DRUID HILL PEACH.—This fine late fruit was originated by L. N. ROGERS, Esq., of Druid Hill, near Baltimore, and was first described and made known in our *Fruits and Fruit Trees.* Mr. ROGERS also sent us buds of this variety, which were propagated and disseminated in various parts of the country.

From the fact that the trees grown from these buds bore leaves with *globose* glands and not with *reniform* glands, as stated in our published description, we entertained doubts of the correctness of the sort. Our description was prepared from fruit and leaves sent us when we first named the variety, "from the original tree." And subsequently, when we communicated our doubts of the correctness of the sort sent us under this name, to Mr. ROGERS, he sent us leaves for comparison. In both those cases the leaves bore large well marked *reniform* glands. On soliciting buds again this season, from trees of the genuine sort, we received from Mr. ROGERS the same variety originally sent us, viz. that with globose glands. And having called Mr. R.'s attention particularly to this fact, he ascertained that *leaves* had been sent us by mistake from trees in an adjoining row, but that the buds were of the true sort.

In this state of doubt we naturally looked for the ripening of some fruit on one of the trees here, of the stock in our possession, with no little anxiety.

We are glad to be able to say, on examining and tasting four specimens (one of them measuring nine inches in circumference) that the buds and trees we received from Mr. ROGERS with globose glands are all the true *Druid Hill* peach. And a very delicious, high flavored fruit it is—certainly one of the very finest of late freestones. The description in our work is perfectly correct, in all respects except that the leaves have *globose* glands—and correspondents to whom we sent it will be glad to know that they have not lost a couple of seasons in cultivating this most excellent variety.

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BOTTLING INSECTS.—We have seen in the nursery of Mr. S. Pond, of Cambridgeport, the plan adopted with success which was recommended in the Cultivator of June 6th. In many trees common glass bottles were hung in the trees, and filled to their necks with sweetened water, and it proved to be an excellent and convenient mode of destroying insects, &c., for the bottles were generally well filled with various kinds of insects, such as beetles, millers, wasps, hornets, bees, bugs, flies, and various other *varmints* of divers sorts, sizes, ages, colors, &c.

Enough would be caught in a few days to furnish an entomologist of common industry with subjects for investigation during a long life. This mode of destruction is so easy and sure, that if generally pursued, it must rid the world of many depredators so as to greatly reduce their numbers. Mr. P. observes that since he practiced this plan, flies and other insects have become more scarce about the house.

We noticed one important fact in regard to these bottles. Those that were of dark colored glass had no insects in them, while the clear transparent bottles were nearly full. Sometimes bottles beome so full in a few days, that it is necessary to empty them.

Mr. Ives catches a great many in his garden by hanging pitchers up in trees, filled about half or two thirds full of sweetened water. When hung upright the insects do not get in; but when hung by the handle, about at an angle of 45 degrees the plan is successful. *Boston Cultivator.*

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A NEW CHERRY.—My neighbor, ZERA BURR, well known for his fine collection of fruits, has originated a cherry, which is, in my estimation, quite superior to most of the kinds now under cultivation. Unlike many new kinds, it is essentially distinct in

* [By some accident these specimens had not reached us when we sent this to press.—ED.]

appearance, and is in season a little after several of the best are leaving us. We have compared it with most of the well established varieties, and without hesitation put it in the same class with the Elton, Bigarreau, Black Eagle, etc. It is the handsomest growing tree in my collection.

Fig. 36. *Burr's Seedling.*

Seeds of the China Bigarreau, and Black Heart, were sown several years since, and this is the product of one of them. It bears a considerable resemblance to the former. It has borne for three years, and its brilliant appearance on the tree is very attractive.

Fruit large, obtuse heart-shaped; suture line distinct. Skin thin, white, pellucid in the shade, beautifully spotted with carmine dots, gradually deepening into brilliant red on the the sunny side, with marblings of darker red; and speckled with numerous lighter spots when fully ripe. Stalk slender, about two inches in length, in a broad and shallow cavity. Flesh white, tender, and juicy, with a sweet, lively and delicate flavor. Ripe this season about the first of 7th mo. (July.) Growth remarkably stout and vigorous. It is a Bigarreau.* *W. R. Smith. Macedon, Oct.* 1847.

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NOTES ON STRAWBERRIES.—*Mr. Downing:* I was gratified to discover in your number for the present month, an article on the strawberry, from one who claims to be so experienced a horticulturist as Mr. PRINCE. But my disappointment was great, on reading his article, to find it abounding in errors. They cast a shade of doubt over those parts of his article, of which I had no knowledge. He says the *Eberlin* strawberry is pistillate. This is a new western seedling, of which he can know nothing. This is the first season it has been distributed, as far as I am informed, and of its size and bearing quality, we are yet unable to speak. One thing is certain, it is not pistillate. At first view, it would be pronounced a common staminate. But on a close examination, it will be found to possess the peculiar character of the *Duke of Kent*—that of having a few blossoms purely pistillate, and wholly defective in stamens, on the same stems with Staminate, and perfect flowers. This peculiar character, may make it a valuable variety to cultivate with pistillates. The *Hudson*, he represents as staminate and pistillate, and very productive. Mr. BUIST, Mr. CARR, and other horticulturists about Philadelphia, will be surprised at this. They have cultivated it for more than half of a century, in that vicinity, more extensively than all other kinds united; and now say, that it is entirely defective in stamens. The *Iowa* he represents as productive. We profess to know more of this plant, than any eastern horticulturist, as it is a wild plant of the west. It is among the finest of the staminates, but will, under the best cultivation not average one-fifth of a crop of perfect fruit.—The *Alice Maude, Buist Prize*, and *Boston Pine*, he represents as yielding a fair crop. We have given them a fair trial, and do not find them to equal the *Iowa*. The *Duke of Kent*, in imitation of some English writer, he pronounces worthless. I observe a celebrated horticulturist in New-York city, gives it a different character. We agree with him in opinion. It has the peculiar character of bearing perfect, and staminate and pistillate blossoms on the same stem. The fruit is small, but of fine quality. Is a good bearer, and comes in early. It can easily be distinguished by the stem and leaf from all the valuable pistillate varieties, and is on this account the most valuable to plant for impregnation.

He pronounces the *Ross Phœnix* and *Swainstone's Seedling*, barren and worthless. I cannot agree with you that they are full bearers, or will even average one fourth of a crop of perfect fruit; but I certainly deem them as good bearers as his *Iowa*, *Alice Maude, Primate, Prince Albert*, and *Unique*; the three latter of which he particularly represents as perfect bloomers, producing abundant crops of large perfect fruit. I shall believe he has spoken hastily, until he claims, and proves himself entitled to the premium of $500, which I saw offered for such a plant. If entitled to the character he gives them, they would be an object of great interest, and you cannot do your subscribers a greater favor, than by favoring them with your experience. We have found no English staminate, that will average one-fourth of a crop of large and perfect fruit; not even excepting their celebrated *Keen's Seedling* and *British Queen;* and are not without hope that English horticulturists will give light on the subject. *A Subscriber. Nashville, Tenn., Sept.* 15, 1847.

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HOUGHTON'S GOOSEBERRY.—*Dear Sir*—I have been expecting a private opportunity to forward you, ere this, a box of Gooseberries, of the best variety I have ever seen. It is so desirable a sort, that I could not well refrain from forwarding a sample, as I now do, by express. I regret that the specimens are only the gleanings of four bushes, *my whole stock of this kind.* This Gooseberry is a seedling, called here *Houghton's.* It, I have no doubt, was raised from seed from our native Gooseberry. Its leaf, as you will perceive by the enclosed shoot, bears evidence of this origin. This is the only Gooseberry cultivated, that *does not mildew under any circumstances.* The cultivators in Lynn, Mass., where this fruit originated, have grown it for three or four years, *and their testimony accords with my* assertion. The growth is exceedingly thrifty, making long pendant shoots, similar to an English variety called "Crown Bob." I have nineteen table varieties, received four years since from Cunningham & Sons, Liverpool, and for my taste, *Houghton's Seedling* surpasses them all, notwithstanding the fruit is not so large as the European varieties. Most of the fruit I now send

* [If the flesh is *tender* it can not be a *Bigarreau* We trust Mr. SMITH will send specimens to the fruit committee of some leading society, and to us, next season, that its merits may be authentically spoken of.—ED.]

you, were taken from shoots grown within one inch of the soil. I have picked at least ten quarts of fruit from four bushes, which were layers two years since.

I think that the *Houghton's Seedling* will supplant almost every foreign variety from our soil. The long shoots which spring from the bottom of the stock, often take root themselves. It will be a fine variety for training, as it makes long shoots, and fruits prodigiously, even to the extreme end of the previous year's growth. Yours very truly, in haste. *John M. Ives. Salem Aug.* 15, 1847.

[If this is a seedling from an indigenous Gooseberry, as it appears to be, and one which, being entirely adapted to our climate—never mildews, it deserves attention. We regret the berries were heated before they reached us, so that we could not judge of their flavor.—Ed.]

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Horticultural Society of the Valley of the Genesee.—*Report of the Committee on Flowers.*—Having spent the short time allowed them in their examination of the various specimens presented, they were agreed as to those who had presented the greatest variety of choice flowers, and also those who had arranged them with the greatest taste; but as many of those choice collections were not made up of annuals, and as they were bound to make their report in accordance with the published regulations, it was more difficult to arrive at satisfactory conclusions.

By the fourth article of the regulations, it is directed that "all articles entered for competition shall be labelled with their name and the name of their producer, and no specimen incorrectly named shall be entitled to any premium."

Again, by the fifth article of the regulations, it is directed "Nurserymen are to compete in a class by themselves, except for floral ornaments and green-house plants, and diplomas shall be awarded the successful competitors with the above exceptions."

Ladies' List, for the best Display of Annuals during the season.—Mrs. S. G. Crane, of Rochester, presented eighty-three varieties of annuals—first premium.

Mrs. Blythe, of Rochester, presented fifty-three varieties, all correctly named. As these were done up and exhibited with taste, we consider her entitled to the second premium.

Mrs. L. C. Fitch presented her list, thirty-one names, yet these were mostly generic, including many varieties.

Mrs. J. W. Bissell presented one hundred and thirty-six varieties of annuals, twenty varieties of perennial Phlox, and twenty varieties of other perennial flowers, arranged in pyramids and bouquets with much taste.

Mrs. G. Elwanger presented one hundred and twenty-three varieties of choice annuals, together with many perennials.

Miss Hooker presented fifty-five varieties of annuals all beautifully arranged.

Mrs. John Williams presented thirty varieties of Dahlias, all of the choicest varieties, which were so arranged as to call forth the admiration of all who examined them. We doubt whether there was ever a finer display of this beautiful flower in Western New-York, and the collection did much toward giving character to the fair.

Mrs. Lewis exhibited thirty varieties of Dahlias, all very fine, but her collection lacked a few of recent introduction, which were included in Mrs. Williams' collection, but they were tastefully arranged, and did honor to the donor.

Messrs. Elwanger & Barry presented seventy-two most splendid varieties of Dahlias, including all the leading varieties, many of which surpassed in richness of colour any ever before exhibited at our previous meetings. They also presented a large assortment of Roses, all of the choicest varieties. We were not furnished with the number or their names, which was perhaps owing to the short time allowed to the committee for their examination.

Wm. King presented thirty-three varieties of Dahlias which was one of the choicest collections at the fair. His collection of Dahlias, and his floral ornaments were much admired. There are few of our florists who cultivate with more taste than Mr. King. Mrs. King presented some fine bouquets and cut flowers, many of which were very beautiful.

Miss S. Shaw presented five bouquets of cut flowers, tastefully arranged.

Miss L. J. Whitney, one hundred and forty-two varieties of annuals, not named.

Mrs. Chappell, two pyramids.

Miss M. T. Uttley, Mrs. J. W. Johnson, Mrs. J. F. Bush, Miss A. Fitch, N. W. Whitby, J. P. Fogg, Miss S. R. Gould, Mrs. Rapelje, Mrs. H. N. Langworthy, Mrs. B. F. Smith, Mrs. I. Belden, fine varieties, but no list.

Mrs. Billings, a splendid artificial bouquet.

Mrs. Louis Chapin, two splendid shell bouquets.

Mrs. Billings, a splendid collection of Pansies.

L. Wetherell, one hundred and fifty species of wild flowers.

A splendid case of wax flowers was exhibited without a name.

Wm. King, a splendid collection of green-house plants; Messrs. Elwanger and Barry, a fine display of green-house plants; but as these were for the season, the committee did not decide upon them.

Premiums.—The Committee awarded the following premiums:

Native Flowers.—L. Wetherell, one hundred and fifty species, first premium, $8.

Ladies' List—Annuals.—Mrs. S. G. Crane, first best display during the season, $15.

Mrs. E. K. Blythe, second best display during the season, $10.

Decorations.—Messrs. Elwanger & Barry, first best floral ornament, $5.

Wm. King, second best do., $3.

Mrs. Billings, third best do., $1.

Bouquets.—Miss L. J. Whitney, first best table bouquets, $3.

Mrs. Wm. King, second best do., $2.

Mrs. J. W. Bissell, third best do., $1.

Miss S. Shaw, first best hand bouquets, $3.

Miss Hooker, second best, $2.

Mrs. Wm. King, third best, $1.

Mrs. Billings, Pansies, $1.

Discretionary Premiums.—Miss L. J. Whitney, for the best display of flowers without list, $15.

Mrs. L. C. Fitch, for thirty-one species not including varieties, $5.

Mrs. E. Atkinson, Mrs. R. Sterling, Mrs. M. Wright, F. Brown, J. H. Watts, N. Goodsell, Committee.

Report of the Committee on Fruits.—The following list of fruits entered for competition or exhibition, is pretty nearly correct, although in consequence of some misunderstanding about the time we were to make our examination, some collections were presented too late, and were thus deprived of premiums, to which they might have been entitled, had they arrived at an earlier hour.

N. Hayward, thirty-four varieties of Apples, three of Peaches, one of Quinces, one of Grapes. These were very fine specimens, and received two of the premiums offered by the Agricultural Society.

Freeman Clark, twenty-six varieties of Apples. A good collection, but not named.

Samuel Briggs, forty varieties of Apples, eight of Pears.

R. H. Brown, ten varieties of Apples, three of Grapes.

H. N. Langworthy, twelve varieties of Apples, five of Peaches, one of Grapes, three of Pears.

Wm. Shephard, twenty-two varieties of Apples, four of Peaches.

H. Hooker, twenty-one varieties of Apples, two of Peaches, three of Grapes.

T. B. Hamilton, Isabella Grapes.

I. Belden. Isabella Grapes, and two varieties of Siberian Crab.

J. Frazer, three varieties of Apples, very perfect specimens.

Mrs. J. L. D. Mathies, Isabella Grapes.

E. K. Blythe. the same.

P. W. Van Alstyne, one plate Peaches.

P. Kearney, one basket Quinces.

G. W. Burbank, the same.

G. W. Currier, Isabella Grapes,and Summer Bon Chretien Pears, very large.

D. Bowen, one plate Peaches, and one basket of Quinces.

R. Damon, one plate of Apples.

N. N. Treat, the same.

M. Morton, the same.

J. H. Thompson, one plate of Apples—Peck's Pleasant.

M. B. Seward, one plate of Apples—Hawley.

M. Chapin, two varieties of pears.

Z. Cornell, by Z. O. Nelson, a large basket of Miller's Burgundy Grapes.

L. A. Ward, sixteen varieties of Pears.

J. H. Watts, two varieties of Pears.

P. Rosecrantz, one plate Peaches.

H. Bush, two plates of Peaches, and two Grapes.

H. P. Norton, two plates Peaches, three of Apples, and one of Pears.

C. F. Crosman, one plate Grapes, and one of Plums.

J. C. Campbell, Violet Nectarines.

J. H. Watts, Black Hamburgh and St. Peter's Grapes, grown under glass at Boston.

Nurserymen.—Elwanger and Barry, Mount Hope Garden and Nurseries, forty-seven varieties of Apples, forty-two of Pears, nineteen of Peaches, three of Crab Apples, Spanish Chestnuts and Madeira nuts.

Powis and Goodsell, Monroe Nurseries, nineteen varieties of Apples, and three of Peaches.

Samuel Moulson, Rochester Nursery, fifteen varieties Apples.

Bissell, Hooker and Sloane, Commercial Nursery, twenty-four varieties of Apples, and three of Peaches.

Hall Colby, seven varieties of Apples, among which were the St. Lawrence and Red Canada, very handsome specimens; and four varieties of Peaches and one of Grapes.

W. B. Wilcox, three varieties of Apples.

Premiums awarded.—Apples.—Greatest variety and best grown, H. Hooker.

Second best ditto, S. Briggs.

Third ditto, W. Shepard.

Best fall Apple, the St. Lawrence, H. N. Langworthy.

Second best ditto, the Hawley, M. B. Seward.

Pears.—First premium, L. A. Ward.

Second premium, W. Shepard.

Grapes.—Greatest number of varieties, R. C. Brown.

Best dozen bunches, T. B. Hamilton.

Best single bunch, Mrs. Mathies.

Second best ditto, G. W. Currier.

Quinces.—Best dozen, P. Kearney.

Watermelons.—Imperial, J. Donallen.

Second, Spanish, H. N. Langworthy.

Muskmelons.—Best, J. Donallen.

Nurserymen.—Best display of Apples, Pears, and Peaches, Elwanger and Barry, a Diploma.

The Dyer Apple presented by Messrs. Elwanger and Barry, merited more attention than most of the Autumn Apples, being a variety lately introduced here, certainly equal to any autumn apple in fine flavor and richness, and superior to most of the apples presented.

S. Moulson, S. Miller & J. W. Bissell, Committee.

.... .

Worcester (Mass.) Horticultural Society.—The annual exhibition of this Society, was held at Worcester, on the 23d of September. Of the Reports, we have received only the one on Fruits, by Mr. S. H. Colton, from which it appears that the show of Fruits was very extensive, the number of contributions amounting to 134. We give the following extracts from the Report:

"It cannot but be gratifying to all who take any interest in horticultural pursuits, to witness the constant and rapidly increasing collections of valuable fruits in our midst; evincing good proof of skillful cultivation, and correct taste and good judgment, in selecting those varieties which are best suited to our soil and climate. No further evidence of this need be adduced, than a comparison of the exhibition which has just taken place, with those of former years. With a very few exceptions, all the fruit exhibited this year, was grown in this county; while heretofore, our show has been in part made up by contributions from cultivators abroad.

Although, owing to their scarcity, the show of Apples was not quite equal to some former exhi-

bitions, and fears of a failure in that department were entertained by some, yet, taken altogether, the show of fruit this year, far exceeded that of any former season; and probably a better collection of *all* the fruits of the season, was never before exhibited in New England.

The Committee regretted that the time of holding the exhibition was fixed for so short a period; as no doubt many persons who would be glad to attend it, could not conveniently do so during the short time it was open. It is hoped that *two* days, at least, will hereafter be devoted to that purpose.

But, although the exhibition was open to the public only one day and two evenings, yet nearly *three thousand* persons visited it; evincing pretty conclusive evidence of the interest our community feel in the subject.

Notwithstanding the hall was constantly thronged with visitors, and many hundreds of samples of beautiful and tempting fruit, within reach of every one, yet all seemed to feel and act as if it was placed there to be examined with the eye only. No instance of pilfering, and but little unnecessary handling the fruit was known to occur. The Committee think it speaks well for our community, and they take pleasure in making this statement, being so widely different from the custom in some places, where the fruit has to be put beyond reach to ensure its safety from being purloined."

As no premiums are awarded by the Society (although it is to be hoped its funds will soon warrant it,) the committee are happily excused from expressing much opinion upon the respective merits of the fruits exhibited; and they have, therefore, particularized but very few. It was no doubt apparent to all, that there seemed to be more uniformity than usual in the size and appearance of the varieties shown; and, with a few exceptions, no person exhibited samples much superior to those presented by others, nearly all were fair, and of handsome appearance.

But few new seedling varieties of fruit were offered for exhibition, which are worthy of particular notice. A fine seedling peach, of a light delicate colour and good flavor, raised by L. Cheney of Southbridge; and a good and handsome yellow variety, raised by D. D. Prescott of West Boylston, the Committee judged were of first quality, and worthy of general culture. Several kinds of native grapes were exhibited, but the committee did not discover that they possessed sufficient merit to warrant their recommending them, excepting the variety called the "Fitchburg," shown by S. H. Colton of Worcester, and the "Blackstone," by Hiram Wing of Northbridge, both of which are good and desirable sorts.

It is much to be regretted that more attention is not paid by cultivators to ascertaining the true name of all their varieties of fruit exhibited; and although there has been some improvement in this particular from former years, yet many fanciful and outlandish names are often retained year after year, notwithstanding the true one may have been before given.

In conclusion, the committee cannot but express the hope that there may be no relaxation in the effort to maintain our present high reputation as a fruit growing community. Probably in no part of the country is the climate and soil better adapted than ours to raising in perfection all the useful and valuable varieties; and with a reasonable care of our trees, we are usually rewarded with a bountiful crop of good fruit. ....

St. Louis Horticultural Society—*Fall Exhibition.*—The Society met pursuant to adjournment, at the Laclede Saloon, on Wednesday, the 15th day of September, at 10 A. M. Thomas Allen, President, in the Chair.

The large saloon was well filled with a choice variety of rare and excellent products, from contributors residing in Missouri and Illinois. The exhibition of Fruits was large, varied, and highly interesting. The specimens of Apples, Peaches, Pears, Quinces, and Grapes, evinced a high state of culture, and commendable attention on the part of the cultivators, in the improvement of their fruits, by the selection of the best and choicest varieties, and those most adapted to stand, and improve, in this soil and climate. The exhibition of Vegetables was also large and varied, and proved beyond cavil, the fact, that with proper cultivation and attention, the soil and climate of this section is capable of producing to an unusual size, whilst the flavor is preserved, and the nutritiousness increased. The exhibition of Flowers and Plants, although not so large as at the last exhibition, was rich in variety and rareness.

Report on Fruits.—The Committee on Fruits, having carefully examined all the different parcels and varieties of fruits exhibited for inspection, proceed to make and submit the following award of prizes, and accompanying remarks:

1st Prize of a Silver Cup, worth $10, for the greatest and best variety of Fruits, awarded to Capt. Lewis Bissell, who exhibited sixty-three varieties of grafted *Apples*, many of them very fine; twenty-nine varieties of *Pears*, most of them good varieties and fair fruit; two varieties of *Quinces;* four varieties of *Peaches;* one of *Grapes*, and one of *Damsons*, all good fruit. Among the varieties of apples are the Roxbury Russet, Golden Pippin, White Belle Flower, Rhode Island Greening, Green Newtown Pippin, Rambo, Romanite, York Pippin, Newark Pippin, Jenneting, Esopus Spitzenburg, Golden Russet, Ortly Pippin, Jonathan, Green Pippin, Late Queen, Taylor's Pippin, Baldwin, and many others of fine varieties and excellent fruit.

2d Prize, a Silver Cream Ladle, worth $3, for the second best variety of Fruits, awarded to Thomas Allen, Esq., who exhibited three varieties of *Grapes*, the Catawba, the Isabella, and a native grape; ten varieties of *Peaches;* the Heath Peach, the White Cling, the Large White Cling, (a seedling,) Apricot Peach, a Large Yellow Peach, a fine free stone called Crystal Spring Peach, two good free stone peaches, names not known, and several other good varieties, included in his catalogue, herewith submitted, making the ten varieties above mentioned, mostly very fine and fair fruit. Two varieties of *Pears;* three varieties of *Quinces;* and twenty-three varieties of *Apples*, among which are the Golden Pippin, Fall Pippin, Newtown Pippin, the Spotted, Newark and Long Pippin, two

varieties of Spitzenburg, Rambo, Romanite, Rhode Island Greening, Yellow Belle Flower, Jonathan, Hughes' Crab, and many others, making in all the twenty-three varieties, mostly good.

3d Prize, a Silver Cream Ladle, worth $4, for the greatest and best variety of *Peaches*, awarded to Thomas Allen, Esq., who exhibited ten varieties of fine peaches, as described above.

4th Prize, a Silver Fruit Knife, worth $2, for the second best variety of *Peaches*, awarded to Mr. A. A. Hillard, of Illinois, who exhibited eight varieties of Peaches; the Old Mixon Cling, Monstrous Pompon, Morris, Atwood's White Heath, Black Hawk, latest of all, Mexican, and Catharine, all fine fruit.

5th Prize, a Pair of Silver Butter Knives, worth $4, for the greatest and best variety of *Pears*, awarded to Capt. Lewis Bissell, who exhibited twenty-nine varieties of Pears, mostly very fine fruit; among them are the Bartlet, Napoleon, Seckel, Pound Pear, Beurre de Aremburg, Cuisses Madame, Summer Bergamot, and many others, making the twenty-nine varieties.

6th Prize, a Silver Fruit Knife, worth $2, for the second best variety of *Pears*, awarded to Mr. E. Mallinkrodt, who exhibited fifteen varieties. The Beurre Belgique, Saint Johns, Beurre Napoleon, February pear, Beurre Diel, Cinnamon pear, German Sugar pear, Beurre d'hiver, Spice pear, Beurre Blanc, Bergamotte d'hiver, Bergamotte d'-Automne, Rouge Saint Poire, Beurre Poire Jaune, all fine fruit.

7th Prize, a pair of Silver Butter Knives, $4, for the greatest and best variety of *Apples*, awarded to Geo. W. Sullivan, who exhibited twenty-eight varieties, among which are the Pound Pippin, Golden Pippin, Newark Pippin, Spice Pippin, Long Green Pippin, Newark King, Belle Flower, Prior's Red Jenneting, Codling, French Jennett, Priestly, Hughes' Crab, Maiden's Blush, Late Queen, and many other excellent varieties, and the fruit very fine.

8th Prize, a Silver Fruit Knife, $2, for the second best variety of *Apples*, awarded to Captain H. M. Shreve, who exhibited fifty varieties, among which are the New-York Gloria Mundi, Danver's Sweeting, Holland Pippin, Newtown Pippin, Ortley, Peck's Pleasant, Red Winter Pennock, Golden Russet, Jersey Black, Belle Flower, Christmas Pippin, Pryor's Red, Padley's Pippin, Long Green, Golden Pippin, Rhode Island Greening, and many others as per Captain Shreve's catalogue, many of them are fine fruit, making the fifty varieties.

9th Prize, for the greatest and best variety of *Grapes*, a set of Silver Tea Spoons, $6, to Mr. Francis Zurstrassen, who exhibited three varieties of grapes, the Isabella, Catawba and Burgundy, all very fine, and the bunches large, full and bright, and the fruit finely flavored.

10th Prize, for the second best variety of *Grapes*, a Silver Cream Ladle, $2, awarded to Dr. Reuben Knox, who exhibited two varieties of grapes, the Catawba and Cape Grape, both good specimens of their kind, the fruit being fine and full.

11th Prize, for the greatest and best variety of *Quinces*, Silver Sugar Tongs, $3, awarded to Thos. Allen, Esq., who exhibited three varieties, the Apple Shaped, the Pear Shaped, and the Portugal, all fine specimens, large and fair.

12th Prize, for the greatest and best variety of *Melons*, a pair of Silver Mustard Spoons, $2, to Mr. Wm. Sigerson & Brothers, for a lot of fine Water Melons and Cantelopes, which looked exceedingly well, and proved most agreeable to the taste, upon an impartial trial.

The Society is indebted to several gentlemen, for specimens of fruit sent in for exhibition, not claiming premiums, who are entitled to our thanks.

The thanks of the Society are due to Mr. James Mitchell, of Belleville, Illinois, for the exhibition of a new Pear, of superior quality, raised by him from the seed, and named Mitchell's Russet. This Pear resembles the Seckel, in quality, shape and color, but it is of larger size.

The President brought to the notice of the Committee, several specimens of new fruit, which he had received from Judge Robert Wash, near the close of the exhibition. One of them, called the Christy Apple, is described as being particularly worthy of the notice of the Society. Among them was a small Pear, of good quality, raised by P. Chouteau, Sr., and the Cahokia Butter Pear, believed to be unexcelled by any of its kind.

The Committee noticed upon the tables some very handsome specimens of the "Ohio," or "Segar Box" Grape, as it is now called in eastern publications. It was intimated to the Committee, that St. Louis may possibly claim the paternity of this grape; that the vine whence many cuttings have been distributed, is of long standing in this city, and early in possession of the Catholic missionaries.

The Committee may be allowed to express their gratification with the variety and excellence of the fruits exhibited, and with the new facts and fruits which have been brought to notice. Nor did they fail to observe, with pleasing astonishment, the enormous size of several new fruits, and that also to which many old varieties attain under the genial influences of our soil and climate. There can be no question of the adaptation and capacity of our soil and climate to the production of fruit of first rate qualities, and a plentiful supply of it, not only for home consumption, but for an extensive foreign market.

All of which is respectfully submitted.

The Committee on Flowers, &c., consisting of Dr. Gempp, Salisbury and McDonald, made the following award of premiums:

The Committee award to Mr. Florant M. Meline, for the greatest and best variety of Green House Plants, the premium offered by the Society, viz: a pair of silver butter knives.

The Committee award to Mr. Gert Goebel, for the second best variety of Green House Plants, the premium offered by the Society, viz: a silver sugar tongs.

The Committee award to Nicholas Riehl, for the best Parlor Bouquet, the premium offered by the Society, viz: a silver cream spoon.

The Committee award to Capt. Lewis Bissell, for the best Hand Bouquet, the premium offered by the Society, viz: a pair of silver salt spoons.

This Committee have been preparing a more full

report on the character, variety and beauty of the Flowers and Plants exhibited, but have not furnished it to us in time for this publication.

The Committee on Vegetables, consisting of C. Semple, Dr. R. F. Barrett, and B. Martin, through their chairman, Mr. Semple, made the following report: [Which we are obliged to omit.]

After the distribution of premiums, the President, Mr. Allen, addressed the meeting in a brief but impressive manner; explaining its objects and purposes, and forcibly illustrating the beneficial effects anticipated from its success. His remarks were listened to with profound attention, and received with applause.

After the articles exhibited had been disposed of, for the benefit of the Society, in which the crowd seemed each to vie the one with the other in manifesting his appreciation of the useful and beautiful, the Society adjourned. A. B. CHAMBERS, *Sec'y*.

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BUFFALO HORTICULTURAL SOCIETY.—The committee on Flowers and Flowering Plants, beg leave to offer the following report:—

The September Exhibition just closed, being the last of our Fairs, in *extenso*, for the season, it may not be amiss to take a retrospective glance of the floral season of labors, or rather pleasures, we are closing. And first, we would remark some peculiarities of the season, which may be admitted, has been rather an unusually short one. April and May, and indeed much of June, was cold and ungenial, although the Tulip show on the 27th of May (our first Exhibition) was regarded as a rich and beautiful display. The sun's rays had not warmed into active life the Floral Kingdom generally—the beauteous Queen, when seen, had the tinge of palor upon her cheek, nor was the strong and healthy green and majesty of mien visible until the latter part of June, from whence our season has been fine. A clear unclouded sky, with an occasional refreshing rain, tarried with us through July and August, bringing rapidly into bloom a rich profusion of flowers. The *Aphides*, generally so destructive to Roses at this period, have been less troublesome than is usual, and our Roses generally have had fine blooms. This delightful class of plants have astonishingly multiplied with us. Ere this society became existant, three years since, the common garden or June Roses, with very rare exceptions, were the only Roses known here. The present season, however, has demonstrated that we are not behind our suburban friends in this beautiful class of plants: all, or nearly all the leading *Perpetual*, *Tea*, *Bengal*, *Noisette* and *Bourbon* Roses that have attained celebrity either in this country or Europe, have bloomed with us. The *Pelargoniums*, too, which at the same period were confined to some dozen of the old varieties, have been displaced by a magnificent collection of over fifty entire new ones, embracing every colour and shade, forming as rich and gorgeous a display of intrinsic beauty during their blooming season (from May until August,) as can be well imagined. The modest but ever charming, and ever blooming Verbena, has been generally cultivated amongst us, and has this season been multiplied to over fifty varieties, together with some new seedlings of acknowledged merit. The Fuchsia may also be regarded as a new plant with us. Three years since, the "Ladies Ear Drop," Fuchsia *Onagrariæ*, bearing a pretty little pendant flower, of two or three varieties, were greatly admired, but these have now disappeared giving place to the more recent splendid hybrids, of which there are some fifty varieties among us. The flowers being increased four-fold in size, and of the most beautiful varieties and shades of colour—*Paragon*, *Exoniensis*, *Majestica*, *Coccinea-rosea*, &c., &c., are truly magnificent. One of the most gorgeous of our Autumn flowers, "The Dahlia," has this season been more particularly introduced to our Society, and the magnificent collection of Mr. B. Hodge has drawn forth an universal admiration. There have been about sixty varieties bloomed; and would that most time honored sire, *Mr. John Frost* with his linty locks, but delay his visits to us for a few weeks longer, we may yet anticipate a rare treat. The Dahlia might well be denominated the King of Garden flowers, and the Rose his lovely Queen, but what a progeny of little royalties are there in the rapidly accumulating splendors of the parterre. The Chrysanthemums are not yet in bloom, being October to December flowers; and from the truly rich varieties we have amongst us, all originating from the splendid collection of Mr. B. Coe, and the large stock of Camellias that have this season found their way hither, we have yet the material for another Exhibition, should our Executive Committee deem it wise.

In taking a summary of the five monthly Exhibitions of the season, we find enumerated as shown, some forty varieties of Tulips, fifty varieties of carnations, one hundred and fifty varieties of Roses, thirty varieties of Pansies, over thirty varieties of Fuschias, and over sixty varieties of Dahlias, with some several hundred green-house or pot plants, embracing all the choice specimens of Cactus, Achimenes, Calceolarias, Azaleas, Pelargoniums, Nereum Splendens, Penstemons, Rhododendrons, Roses, Yuccas, Magnolias, &c. And of Annuals a most gorgeous display, embracing a great many that have never before bloomed in this part of the country. These results of the progress of our infant Society are truly gratifying to your committee, as evidencing a rapid, discriminating taste and skill in Floriculture, alike creditable to ourselves and to the city generally, and may be taken as an earnest of our future efforts for the propagation of this truly delightful and social refining, *rationale* of intelligent society. To our Monthly Committee of Arrangements, both senior and junior, embracing during the season some one hundred and twenty ladies, are we especially indebted for their assiduous and ever tasteful labors, in the decorations of the Hall, in the arrangement of the bouquets, and their ready and smiling acquiescence of the duties devolving upon them; and indeed it were but frank to acknowledge that to the Ladies of this Society belong largely the honors it has received, and the success that has accompanied it from its very existence.

At the close of the Fair, the President, Mr. L. F. ALLEN, delivered a highly instructive and valedictory address, giving a retrospective sketch of the progress and well being of the Society since its

organization; he having been its only President, and declining a farther re-election. The address was attentively listened to, and at the close was warmly and affectionately responded to. The Vice-President being in the chair, the following resolutions were adopted:

Resolved, That the thanks of this Society be tendered to our President, Mr. L. F. ALLEN, for the highly instructive and spirited Address we have just heard, and that we still farther tender our most cordial thanks for the untiring and unabated zeal he has manifested for our welfare, and the sagacity displayed in leading us through the first three years of our existence, to what we trust, will be a firm guarantee of future usefulness. And, that a copy of the address be granted the Society for publication.

After some pertinent remarks relative to, and seconding the resolutions adopted by the Erie Co. Agricultural Society, urging the claims of this city to be the place for holding the State Agricultural Fair for 1848, it was *Resolved*,

That this Society appoint a Committee of eleven to confer with the citizens and other Committees, in relation to having the State Fair for 1848, held at the city of Buffalo.

The following gentlemen were elected said Committee:

Lewis Eaton, Col. B. Hodge, Cha's Taintor, R. H. Haywood, Asa Hart, J. R. Lee, W. R. Coppock, J. H. Coleman, N. H. Gardner, T. R. Coulon, L. Hodges.

Col. B. Hodge nominated the following names for honorary membership of this Society:—

A. J. Downing, Esq., Newburgh, N. Y.; Nicholas Longworth, Esq., Cincinnati, Ohio; David Thomas, Esq., Aurora; Luther Tucker, Esq., Albany; Col. H. H. Coit, Euclid, Ohio; who were unanimously elected.

The contributions were as follows:

Mrs. L. H. Pratt—Cut flowers, Dahlias, beautiful Cockscomb, Sweet Pea, Globe Amaranthus, &c.

Mrs. W. R. Coppock—two bouquets of green house flowers, &c., also, two baskets of cut flowers for decorations, &c., composed of Dahlias, seven varieties, (2d rate only) with double and quilled asters, &c., &c.

Miss Hariet J. Arms—A very pretty wreath of verbenas.

Mrs. R. McPherson—Cut flowers Phlox Drummondii, Zinneas, &c.

Mrs. L. Eaton—Bouquet composed of Petunias very fine, Balsams, sweet Pea, Phlox, very good, Dahlias, nine varieties; several of these were fine flowers.

Miss Caroline Putnam—A tasteful bouquet of Dahlias, French Marigold, and several varieties of prairie flowers, very pretty.

Miss Hannah Hart—A beautiful wreath of Dahlias, also a bouquet of Dahlias, fourteen varieties, the most of those were very fine.

Mrs. E. H. Easterbrooks—Bouquet of fine Dahlias, &c.

Mrs. Chas. Howland—Two bouquets composed of Dahlias, eight varieties, very fine, Passion flower, Cerulia, Zinneas, Pelargoniums, Hemerocallis. &c., very tastefully made up.

Mrs. Chas. Taintor—Two baskets of miscellaneous cut flowers.

Mrs. H. W. Rogers—Two bouquets of Dahlias, eight varieties, tastefully made up.

Mrs. H. Pratt—Two bouquets, composed of choice Dahlias, Roses, Geraniums, two varieties, Althea frutex, &c.

Gen. H. B. Potter—A pan of rich and fine Dahlias, nine varieties.

Mr. W. Webb—Eight bouquets, tastefully made, composed of Roses in variety, Verbenas, Fuchsias, Penstemon, Passiflora elata, very beautiful, Carnations, Salvia patens and fulgens, Heliotrope, Calceolarias, Mignionette, Globe Amaranthus, also two baskets of Dahlias, and a large collection of very rich annuals. Mr. Webb's annuals are particularly beautiful.

Mr. R. H. Haywood exhibited the flower of the Hercules Club; this tree from some cause has not of late generally flowered with us.

Miss Mary Davis—Buffalo Nursery—Four *hand* bouquets, composed of rich and choice Dahlias in variety, Roses, verbenas, several varieties of Phlox, the Stapelia flower, Begonias, Heliotropes, Zinneas, Fuchsias, &c. The bouquets were very tastefully made up.

Mr. B. Hodge—Buffalo Nursery—A case of splendid Dahlias, containing forty varieties, also a very tasteful pyramid of Dahlias, embracing in the whole some 60 varieties.

These Dahlias we have before mentioned as being worthy of admiration, and did the constitution and by-laws of our society grant premiums, we should certainly award Col. Hodge the first one; we would, however, desire the Executive Committee to award to Col. Hodge, as a token of this society's approbation for his enterprise in procuring and cultivating this stock of Dahlias, a Diploma.

Mrs. E. Tyler—A large floral ornament on a square frame, groundwork beautiful moss, in the centre a large heart well formed, and worked with German Asters, Verbenas, White Phlox, Candy Tuft, Arbutilon Striata, &c., the whole surmounted by a rich border of fine Dahlias. The design was deserving of high approbation.

Mr. E. Tyler—Fifteen choice and very tasteful bouquets, composed of Roses of fine variety, and also Arbutilons, Fuchsias, Phlox Drummondii, Dahlias, &c., &c.

Mr. Tyler also exhibited a large case of Dahlias, many of which were very fine.

Green-House Plants.—Miss Hannah Hart—Species of Cactus, name not known.

Mr. E. Tyler—North-street—Six pots of fine Fuchsias, varieties Exoniensis, Paragon, Duke of Wellington, a fine specimen of Russelia Juncea, in flower, Ficus Elasticus, Roses, Mad. Despres, Agrippina, White Cyclamen, a very fine, and remarkably thrifty orange tree, in full bearing.

The show of green-house plants was by far the fewest of the season, the day being very windy, and with all very cold, prevented those having blooms to risk them.

W. R. COPPOCK, *Chairman.*

FIG. 37. THE NEW ENGLAND SUBURBAN DWELLING

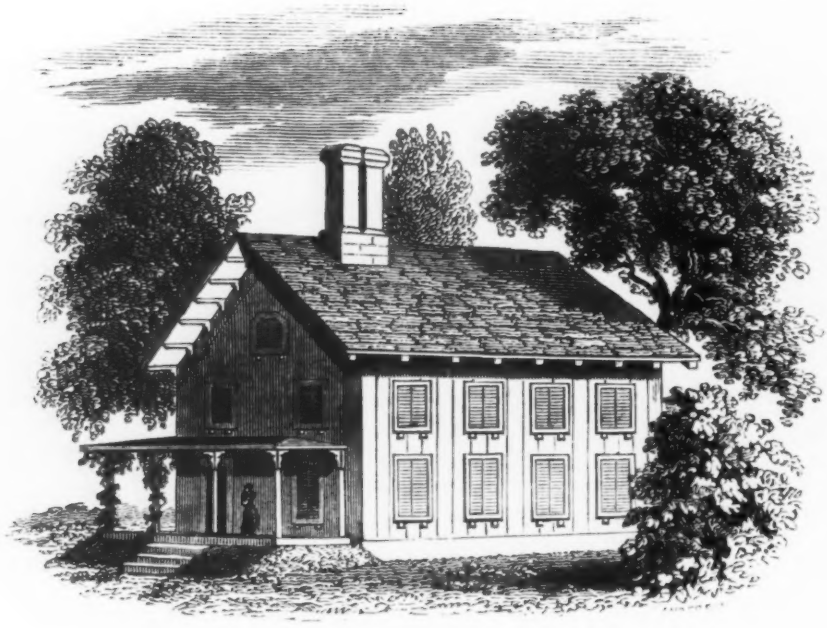

FIG. 38. DESIGN FOR IMPROVING THE SAME.